

**BOSTON HARBOR, MASSACHUSETTS
FEASIBILITY REPORT
FOR THE REMOVAL AND DISPOSAL
OF SOURCES OF FLOATABLE DEBRIS**

***Cultural Resource
Reconnaissance***

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**DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS.**

MARCH, 1978

BOSTON HARBOR FLOATABLE DEBRIS:

A CULTURAL RESOURCE RECONNAISSANCE SURVEY

by

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ABSTRACT

The United States Army Corps of Engineers is undertaking a feasibility study for Federal participation in the removal and disposal of floatable debris sources in Boston Harbor in connection with which this cultural resource reconnaissance survey has been conducted. The purpose has been to locate and identify cultural resources when possible, distinguish between areas that are sensitive to the proposed project and areas that are non-sensitive, and make recommendations for an intensive survey of cultural resources in the proposed project area. An extensive search of secondary source literature and historic maps, together with a brief field reconnaissance has been accomplished. Significant historic activities within the twelve shorefront communities are discussed. The economic and topographic development of Boston Harbor, and the relationship between significant shorefront activities are investigated. A total of eleven potentially sensitive areas and an additional thirty potentially sensitive structures are noted, and recommended for intensive study.

ACKNOWLEDGMENTS

The Public Archaeology Lab at Brown University, and the primary researcher, Valerie Talmage, would like to thank the following individuals for their assistance during this investigation: John Wilson, Staff Archaeologist for the Massachusetts Division of Water Pollution Control; Dr. Barbara Luedtke, Archaeologist, University of Massachusetts at Boston; and Captain A. Swanson, Historian, Metropolitan District Commission.

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I. INTRODUCTION

This report is a Cultural Resource Reconnaissance for the Boston Harbor Debris Study under feasibility consideration by the New England Division, United States Army Corps of Engineers, 424 Trapelo Road, Waltham, Massachusetts. The study was conducted by the Public Archaeology Laboratory, Brown University under the direction of Geoffrey P. Moran, Projects Manager. Valerie Talmage was the primary archaeological researcher for the study.

This report is intended to fulfill requirements of both State and Federal legislation pertaining to the identification and evaluation of cultural resources. Relevant legislation includes:

Federal

1. The National Historic Preservation Act of 1966
(PL 89-665, 16 USC 470-1966)
2. The National Environmental Policy Act of 1969
(PL 91-1901, 42 USC 4321- 1969)
3. Executive Order 11593
(16 USC 470-1971)
4. Procedures for the Protection of Historic and Cultural Properties (36 CFR VII 800-1972)
5. Archaeological Conservation Act
(PL 93-291-1974)

State

1. Massachusetts Environmental Policy Act
(Chapter 781, Acts of 1972)
2. Chapter 1155, Acts of 1973

Specifically, this report complies with the proposed rules issued by the Department of the Interior, National Park Service (36 CFR Part 66) for reconnaissance survey. These rules state that:

Reconnaissance survey is designed to provide a general impression of an area's historic properties and their values, and involves small-scale field work relative to the overall size of the area being studied. Although reconnaissance survey will seldom if ever provide sufficient data to insure identification of all historic properties in the area, it should make it possible to identify obvious or well-known properties, to check the existence and condition of properties tentatively identified or predicted from background research, to identify areas where historic properties are obviously lacking, and to indicate where certain kinds of properties are likely to occur, thus making possible a more informed and efficient intensive survey at a later stage in planning.

In addition, this report accomplishes the goals outlined for Phase I Reconnaissance Survey in "Archaeology and Public Planning " (McManamon 1976) of the Massachusetts Historical Commission. Phase I investigation of impact calls for:

- (1) a background study of regional history and prehistory,
- (2) a literature search to identify known sites, (3) a sites records check at state and local archives, (4) a walkover and/or sub-surface investigation of the area and (5) a calculation of the archaeological sensitivity of the impact area taking into consideration past and present land use, ecological contexts, and the nature of the proposed disturbance to the land.

II. PROJECT DESCRIPTION

The New England Division, U.S. Army Corps of Engineers ("the Corps") is conducting a study to determine the feasibility for a one-time clean up program of Boston Harbor to rid the area of its sources of flutable debris. The Corps considers such debris potentially hazardous to navigation, a suppressant to land values and aesthetically unpleasant.

An inventory and visual inspection of potential debris sources including photographic records, has been conducted for engineering analysis. The inventory located, identified, classified and quantified debris sources within Boston Harbor. The original survey was conducted in 1968; updates were conducted through 1976.

The study area (see fig. 1) includes twelve shorefront communities: Winthrop, Revere, Chelsea, Everett, Somerville, Cambridge, Boston, Quincy, Braintree, Weymouth, Hingham and Hull. The tidewater area of approximately 47 square miles (c. 122 km²) will be included, lying landward from a line drawn between Point Allerton, Hull to the tip of Deer Island, Boston. The study area also includes the water tributaries into the Harbor of the Wier River, Weymouth Back River, Weymouth Fore River to lower dam, Town River, Neponset River to lower dam, Reserved Channel, Fort Point Channel, Charles River to lower dam, and Chelsea River. Also, the

shorefront tidal area of each of the Boston Harbor islands is included.

Potential sources of debris were classified by the Corps into 7 categories: (1) dilapidated waterfront structure, not in use, (2) dilapidated waterfront structure, in use, (3) partially dilapidated structure, (4) structure in fair to good condition, (5) derelict vessels, (6) loose on-shore debris, (7) shorefront dump.

Structures in fair to good condition are not addressed in this reconnaissance, as these structures are not within the Corps' projected clean-up. Derelict vessels are not addressed in this reconnaissance, but will be addressed under a separate contract, by another agency. This reconnaissance survey considers only the dilapidated structures (in use and not in use), partially dilapidated structures, sources of loose on-shore debris and shorefront dumps.

According to the 1976 update there are:

173	dilapidated structures, not in use
21	dilapidated structures, in use
80	partially dilapidated structures
162	sources of loose on-shore debris
5	shorefront dumps
<hr/>	
441	total potential debris sources

The Corps has offered no explicit definition of their classificatory scheme; however, discussion with the debris project head engineer (personal communication, May 27, 1977) suggested that the classifications were largely subjective. Waterfront structures which are dilapidated are structures which, from an engineering status, are so unsound as to make

repair unfeasible, impractical or impossible, or uneconomical. Partially dilapidated structures are structures which need repair, and which are solid enough to warrant such repair. The distinction between loose-on-shore debris and shorefront dumps is not explicit, but is probably a subjective analysis of both size and concentration of debris.

If the feasibility study suggests the project should go forward, the following impact on structures would result: dilapidated structures would be removed, partially dilapidated structures would be repaired, loose on-shore debris would be picked up, and shorefront dumps would be removed. Structures in fair to good condition will not be impacted.

III. METHODOLOGY

A. Analytical Framework:

The goal of this reconnaissance survey is to identify sensitive areas within the limits of the Boston Harbor Debris project that are likely to contain potentially significant historic properties, and to eliminate those non-sensitive areas in the harbor in which significant historic properties are unlikely to occur. In subsequent phases of investigation (e.g., intensive survey or mitigation) the sensitive areas will be intensively examined and specific sources of potential debris will be evaluated for their historic significance. Areas eliminated by this reconnaissance will, in general, not be considered in subsequent phases.

The potential historic significance of a location in the project area will be evaluated by examining the importance of the location's role in the history of the port of Boston. The basic assumption underlying the analytical framework of this reconnaissance is that activities relating to the port of Boston will be localized within the harbor. Thus, the distribution of historic properties within the harbor will not be random, but will be patterned according to ascertainable variables. These variables will be both environmental and cultural. Thus, for example, the location

of shipbuilding for deep water vessels will have been located in those sections of Boston Harbor that are deep enough to allow for the draught of such vessels. Another example of localization is wharves which handled the import and export of goods; these structures will have been located in areas of the harbor which were serviced by transportation routes (e.g. railroad terminals).

One problem that is obvious at this general level of survey but which can only be accurately determined at an intensive level of investigation, is the degree to which locations of certain significant historic activities have become obscured or altered, in whole or part, by subsequent land use at the same location. Over time more than one activity may have been carried on in the same location in the harbor, and the later accompanying structures may have destroyed or modified original structures. Furthermore, much of the history of Boston Harbor involves large land filling developments which totally covered the original shoreline and filled whole sections of Boston Harbor. Thus many historic waterfront structures are under filled land, and patterns of structures relating to early waterfront activities are consequently disrupted. The patterns observed in this study are necessarily some remnant of the original configuration of the material patterns of waterfront activities.

The methodology followed here will argue from significant activities relating to the port of Boston to potentially significant locations in the harbor. Thus, the primary line of inquiry will be to understand and detail various activities which were conducted in the harbor. Once these activities are understood, the relationships between the activities and their localization within the harbor will be addressed.

Most of the significant activities in Boston Harbor relate in some way to the economic function of Boston as a port. As a port, Boston Harbor functioned as a gate through which traffic passed. According to Clapp (1916:4) "A port is not the origin or destination of the bulk of traffic carried by its water lines. It is a concentration point or gateway, in severe competition with other gateways, for the business of a common hinterland". Thus the economic conditions of not only Boston, but New England, the Eastern Seaboard, the United States and foreign countries will carry implications for past activities in Boston Harbor, and consequently implications for structural manifestations in the harbor.

The following matrix (figure 2) delineates some of the activities that have had significance in the history of the port of Boston. The activities listed seem to capture the salient classes of activities in the harbor, but are probably not exhaustive. Furthermore, although this matrix is a useful diagram to expose historically significant

SPHERES OF EXTENSION	LOCAL	COASTAL	DEEPWATER
Activities			
Maintenance	pilots, tugs harbor comm- ittee, hospitals	Navy, USLSS, Coast Guard	quarantine, immigration, customs, defense
Shipbuilding	small boats, repair	coastal ships steam & sail	deepwater ships steam & sail
Fishing	fresh/ice industry oystering, lobstering	exchange	trade (dried cod)
Trade	market products redistribution	freight, domestic shipping	trade w/Europe, So.Amer.,China, West Indies, Northwest Coast
Transportation	ferries PR facilities, bridges	coastal lines	foreign lines
Marine Businesses	sail making lumberyards rope walks chandleries ice cutting	timber, coal	government contract, import/export
Recreation	yachting, racing, bathing, excursions	racing	

Fig. 2 Activity Matrix

Boston Harbor activities, the rigid structure of the matrix presentation obscures the complex interrelationships of the activities. The dynamics of these activities in the port of Boston comprised a densely interconnected and integrated system. This matrix suffices to point out some of the important components of this system, but does not attempt to analyze the relationships involved in the functioning of the port.

Some of the components of the matrix are more densely interrelated than are others. For example, the category of recreation seems largely tangential to the functioning of the economic activities of the harbor, yet is important for understanding late nineteenth century public use of the harbor. The categories of trade and transportation, on the other hand, are intricately tied.

The matrix should provide a useful guide for suggesting locations of activities. A specific square in the matrix should be localized to a specific area(s) in the harbor. For example, the square of "Coastal Trade" in which the freighting and shipping of domestic supplies from Eastern Seaboard ports is contained, can be narrowed to specific harbor locations: since much of the trade consisted in shipping coal and lumber to Boston, which would later be redistributed to inland manufacturing cities, most of the structures associated with coastal trade are located near

railroad terminals in the harbor.

This analytical framework forms the backdrop from which to argue from significant activities to potentially significant locations within the harbor. However, since economic conditions changed over time, the locations of such activities probably also changed over time. Moreover, the topographic profile of the relation of water to land in Boston Harbor has itself changed as land was reclaimed from the sea to support growing developmental pressures. Clearly, explication of the significant harbor activities is dependent on understanding both the economic and topographic history of Boston Harbor. Thus, while the matrix presents the underlying structure for assessing potentially significant areas, details of the economic and topographic history will be necessary for accurate discernment of locations of historic activities.

B. Method of Data Retrieval:

The basic emphasis in a reconnaissance level survey is on literature research rather than fieldwork. Fieldwork comprised a minor component and consisted of a "windshield and walk-over" inspection of the project area, islands excepted.

Three main sources of information were consulted. The first is the survey/photo record sheets and maps supplied by the Corps. Information on these record sheets

included location and description of present structures, estimation of the present condition of each structure, a sketch plan, polaroid photos, present use, owners name, and, in some cases, the past use of the structure. Information for specific structures is sometimes lacking if owners were unknown, etc. Record sheets were supplied for all structures, dilapidated or not. Brief records on dumps were also available. Sources of loose on-shore debris were not catalogued. In addition to the photo record sheets, the Corps supplied a series of maps of the project area. During the course of the study, several clerical and typographical errors were encountered in the survey sheets, and a description of these errors are appended to this report. (See Appendix I).

The second source of data is secondary literature sources on Boston and Boston Harbor. Most helpful of these (for the rest, see bibliography) were Bunting (1971), Baker (1969), Cellineri (1976), Whitehill (1968) and Koren (1923). These sources supplied data necessary for understanding the economic and political history of Boston and the harbor.

The third source of data used in this survey is historic maps, dating from 1630 through the early twentieth century. The series of maps (see Fig. 3 to Fig. 19) shows the topographic development of the harbor clearly and provides the

information to locate various structures mentioned throughout the literature sources.

The three sources of background data control separate provinces of information for the reconnaissance study; the Corps record sheets provide information on the present status of the harbor, the secondary literature sources provide information from which to gain an understanding of the economic relationships active during the history of the port of Boston, and the historic maps provide the information to examine the topographic development of the harbor. In addition, consultation with individuals recently concerned with historical studies in Boston Harbor was supplemental to these three sources. The synthesis of this information will yield a cohesive background against which to evaluate the potential historic significance of localities within Boston Harbor and their associated structures.

Fieldwork was designed to assess the validity of some of the areas projected as sensitive from this synthesis. Fieldwork was limited in nature, and designed to confirm suspicions on the nature of the resources, rather than investigate any cultural properties in detail.

C. Prehistoric Resources

By the nature of the proposed project, the major potential impact to cultural properties would be to historic rather than prehistoric sites. Since no prehistoric site would itself constitute a source of floatable debris,

potential impact to a prehistoric site would be limited to inadvertent land disturbance during the process of removing debris sources. Consequently, debris sources noted by the Corps which are near a known prehistoric site will be noted.

The primary focus of this study is historic period cultural resources. Known prehistoric sites near the impact area will be noted, but prehistoric research was a minor component of the study due to the limited potential impact to such sites involved with the proposed project.

IV. Boston Harbor History

A. Introduction:

This section of the report is designed to explain the interrelations between the economic and physical elements outlined by the matrix in Figure 2. Preceding the two developmental chapters is a chronology listing major topographic changes and economic trends, and including a list major storms and fires which impacted waterfront structures. Supplemental to this chronology and essential for understanding the development of Boston Harbor is the series of historic maps, dating from 1722 to 1910. The four parts of this section, the chronology, the historic maps, the economic development and the topographic development, read in combination, provide the best way to understand the historical significance of locations in Boston Harbor.

CHRONOLOGICAL OUTLINE OF BOSTON HARBOR ECONOMIC AND
TOPOGRAPHIC DEVELOPMENT

I. Development (1624 - 1783) (see Fig. 3-4)

- 1624 Samuel Maverick settled in Chelsea.
- 1625 Rev. William Blaxton settled near Beacon Hill.
- 1630 J. Winthrop et al arrived, settled first at Charlestown and moved to Boston in the same year.
- 1631 Ferry from Charlestown to Boston. First vessels in colony built at Medford.
- 1634 Community loading place on north side of Town Dock (Bendall's Cove). Castle Island fortified.
- 1635 Ferry from Boston to Charlestown and Winnisimett (Chelsea).
- 1637 Ferry from Boston to Noddles Island (East Boston).
- 1641 Bendall's Cove granted to consortium for construction of wharves.
First country road from Chelsea to Salem.
- 1642-49 English Civil War stimulated Colony's commerce (since England couldn't maintain control of shipping).
- 1643 North cove facing Charlestown granted to consortium for construction of wharves and corn mill.

- c1646 North Battery established at Merry's Point
in North End.
- 1653 Major fire with considerable damage in dock
area.
- 1660 Navigation Act.
- 1666 South Battery established on Rowe's Wharf.
- 1673 Navigation Act.
- 1679 Fire damaged 70 waterfront warehouses.
- 1681 Sea Wall/Barricado/Out Wharves built in
Great Cove.
Beacon established on Great Brewster Island.
- 1690 Boston population c. 7,000
- 1709-10 Grain and Provision shortage with Queen Anne's
War (1702-1713).
- 1711 Major fire Grain riots.
- 1713 Grain riots. Long Wharf opens.
- 1717 Quarantine station established on Spectacle
Island.
- 1733 Molasses Act.
- 1737 Quarantine station moved to Rainsford Island.
- 1738-49 Economic depression.
- 1742 Boston shipbuilding moved to Newburyport.
- 1743 Boston population c. 16,380.
- 1775 Fire, 35 waterfront warehouses destroyed.

1775-83 American Revolution.

II. Prominence (1783-1857) (see fig. 5-11)

- 1783 Depression; British ports closed to American ships.
- 1786 Charlestown Bridge built.
- 1788 Depression broken.
- 1789 Dike and dam at Island End River, Chelsea.
- 1790 Boston population 18,320.
- 1792 Town of Quincy set off from Braintree.
- 1797 Federal government established shipyard on 43 acre mudflat, Charlestown.
- 1801 Filling India Wharf area.
- 1803 Middlesex Canal opened.
Chelsea Bridge and Salem Turnpike opened.
- 1804 Dorchester Neck (South Boston) annexed.
Front Street Corporation filled to create Harrison Avenue, encroached on South Cove.
- 1805 South Boston bridge opened.
Tudor ice trade began.
India Wharf constructed.
- 1807-09 Jefferson's embargo.
- 1812 War with Great Britain.
- 1814 New England meeting at Hartford to consider secession.

- 1817 Ferry from Fosters Wharf to Nahant.
American Navigation Acts of 1817 reserved
coastal trade to domestic vessels.
- 1819 Financial panic. Central Wharf opened.
Signal set up at Deer Island.
Lighthouse set up on Long Island.
- 1820 Boston population 93,000.
- 1822 Boston incorporated as City.
Boston & Liverpool Packet Co. began
operation.
- 1824-52 1% Massachusetts tax on auction.
- 1825 Old Town Dock filled to Long Wharf (112
acres)
- 1827 Boston & Liverpool Packet Co.
- 1827-33 Dry Dock No. 1 built at Charlestown Navy Yard.
- 1828 Reciprocity Act: elimination of discriminatory
duties and tonnage dues on foreign cargoes.
- 1831 Steam ferries operating in harbor.
- 1832 Tudor shipping ice to Calcutta.
- 1833 Widening of Neck and addition 77 acres to
city for Boston & Worcester railroad
facilities.
- 1834 Bridge from Chelsea to Chelsea Street,
East Boston.
Fort Warren on Georges Island. Began con-
struction.

- 1835 Boston & Providence Railroad and
Boston & Lowell, and Boston and
Worcester Railroad opened service.
- 1839 Samuel Hall established shipyard in
East Boston.
Bridge from Pullen Point to Saratoga
Street, East Boston.
- 1840 Boston terminus for British & American
Royal Mail Steam Packet (+Cunard Co.).
Boston population, 93,400.
- 1841 Indirect linkage by several railways
with Albany.
- 1843 Boston population c.100,000.
- 1845 Beginning clippership construction.
First open yacht race.
- 1847 Eight railroads bringing in 20,000
commuters to Boston daily.
Deer Island quarantine station establish-
ed.
- 1848 Cunard line switched to N.Y.
- 1849 Rainsford Island poorhouse established.
- 1850 Boston population 136,400. East Boston
population 5,000.
- 1852 City Harbor Committee established;
East Boston Ferry Co. established.

- 1852 Deer Island poorhouse established.
- 1853 Waterfront police established.
People's Ferry established.
- 1854 Simpson's drydock built in East Boston.
- 1855 Bridge from Chelsea to Meridian St.,
East Boston.
- 1857 Depression, panic lowers prices 25-50%.

III. Decline (1857-1940) (see fig. 12-19)

- 1858-59 City subsidy to East Boston and People's
ferries.
- 1861-65 Civil War
- 1865 Boston Yacht Club established.
- 1866 "L" Street seaside bath opened, South
Boston.
- 1867 Narrows Channel first dredged.
Fort Strong moved from Noddles to Long
Island.
- 1868 South Boston & Lynn Yacht Clubs establish-
ed.
Boston, Hartford & Erie terminal on South
Boston flat.
- 1869 Atlantic Avenue built.
Grand Junction terminal built.

- 1870 Dorchester annexed.
 City bought East Boston ferry Co.
 Decade begins deep water steam.
- 1872 Great Fire destroyed 65 acres in wholesale
 district.
 Boston Tow Boat Co. incorporated.
- 1874 Charlestown annexed.
 U.S. Life Saving Service given federal support.
- 1875 Hoosac Tunnel opened.
 Boston population 342,000.
 East Boston population 28,000.
- 1878 Sewer to Moon Head Island constructed.
- 1882 T wharf built.
- 1883 Fore River Ship & Engine Building Co. establish-
 ed in East Braintree.
 South Boston - large railroad terminal with
 1000' pier, 850' extension, warehouses, grain
 elevator.
- 1885 Poorhouse transferred to Long Island.
 Juvenile reformatory established on Rainsford
 Island.
- 1890's Marine Park, South Boston built.
- 1891 Castle Island connected to mainland with bridge,
- 1892 Narrow channel dredged.
 Garbage rendering plant established on Spectacle
 Island.

1893 Fore River received major Naval Contract.

1896 Deer Island, Suffolk County Prison established.

1897 USS Constitution returned to Boston.

Fort Andrew built on Peddocks Island.

1898 "Portland Gale", November 26.

1900 Major filling of South Boston flats using
1872 fire rubble for fill.

1901 Fore River Shipyard removed to Quincy deep
water site.

1902 North Channel and inner harbor dredged.

1904 Boston Tunnel opened.

1905-06 Renovation of Harbor and wharves.

Broad Sound Channel dredged.

Opening of major new dry dock in Navy Yard.

1911-13 1200' Commonwealth Pier n. 5 built.

1914-18 World War I.

1914 Cape Cod Canal opened.

Fish Pier built.

1915 Revenue Service merged with U.S. Life Saving
Service to form Coast Guard.

1925 North Channel dredged to 40'.

1934 Sumner Tunnel opened .

1937 40' deep anchorage in President Roads .

1940 40' channel (President Roads) to Commonwealth
Pier n. 1.

B.

HISTORIC MAPS

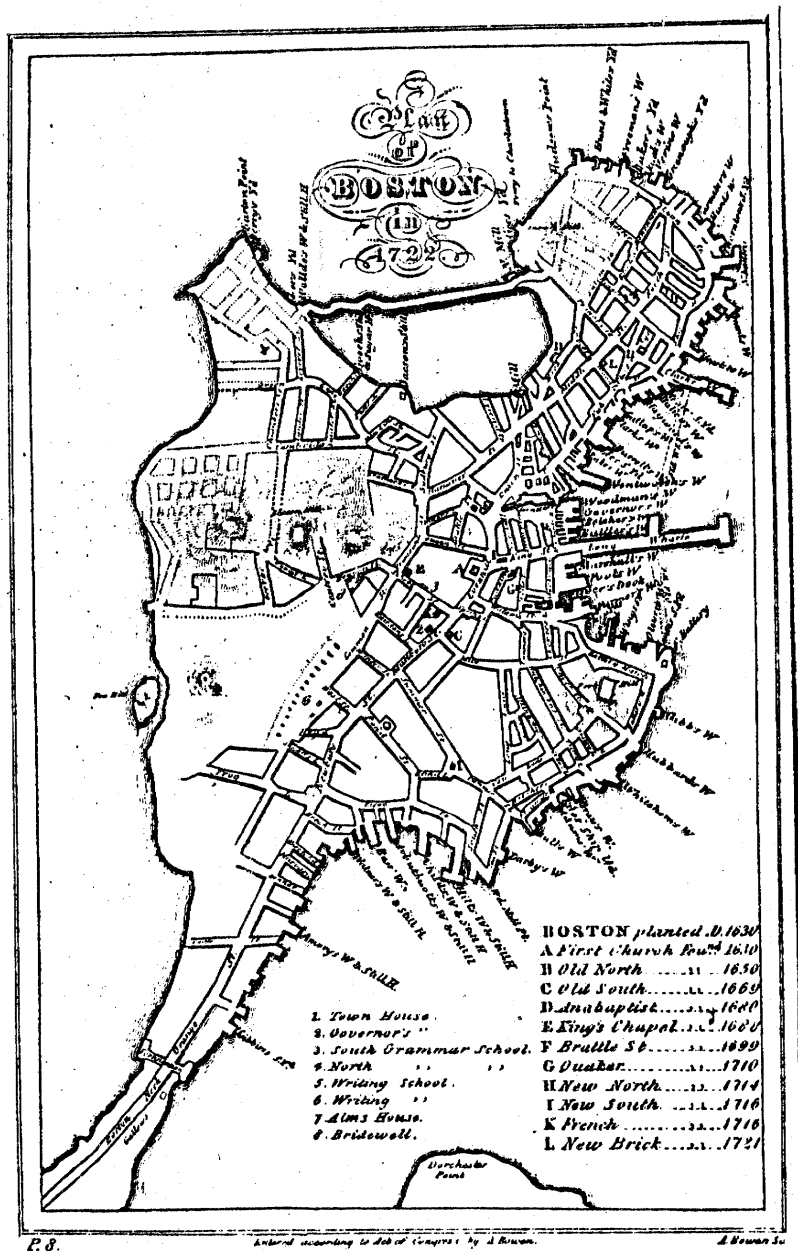
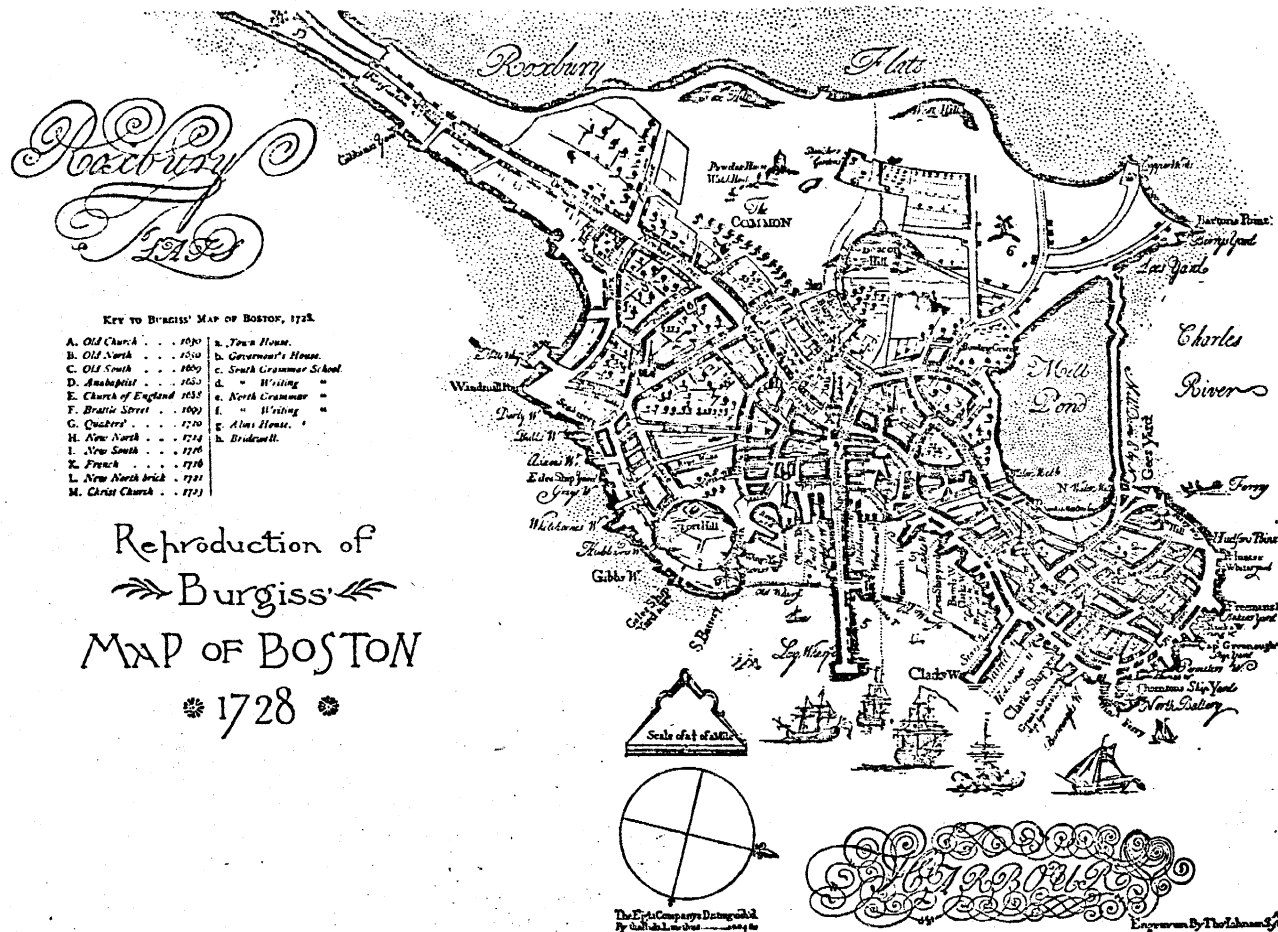


Fig. 3

A. Bowen
Plan of Boston

M.H.S. 1722



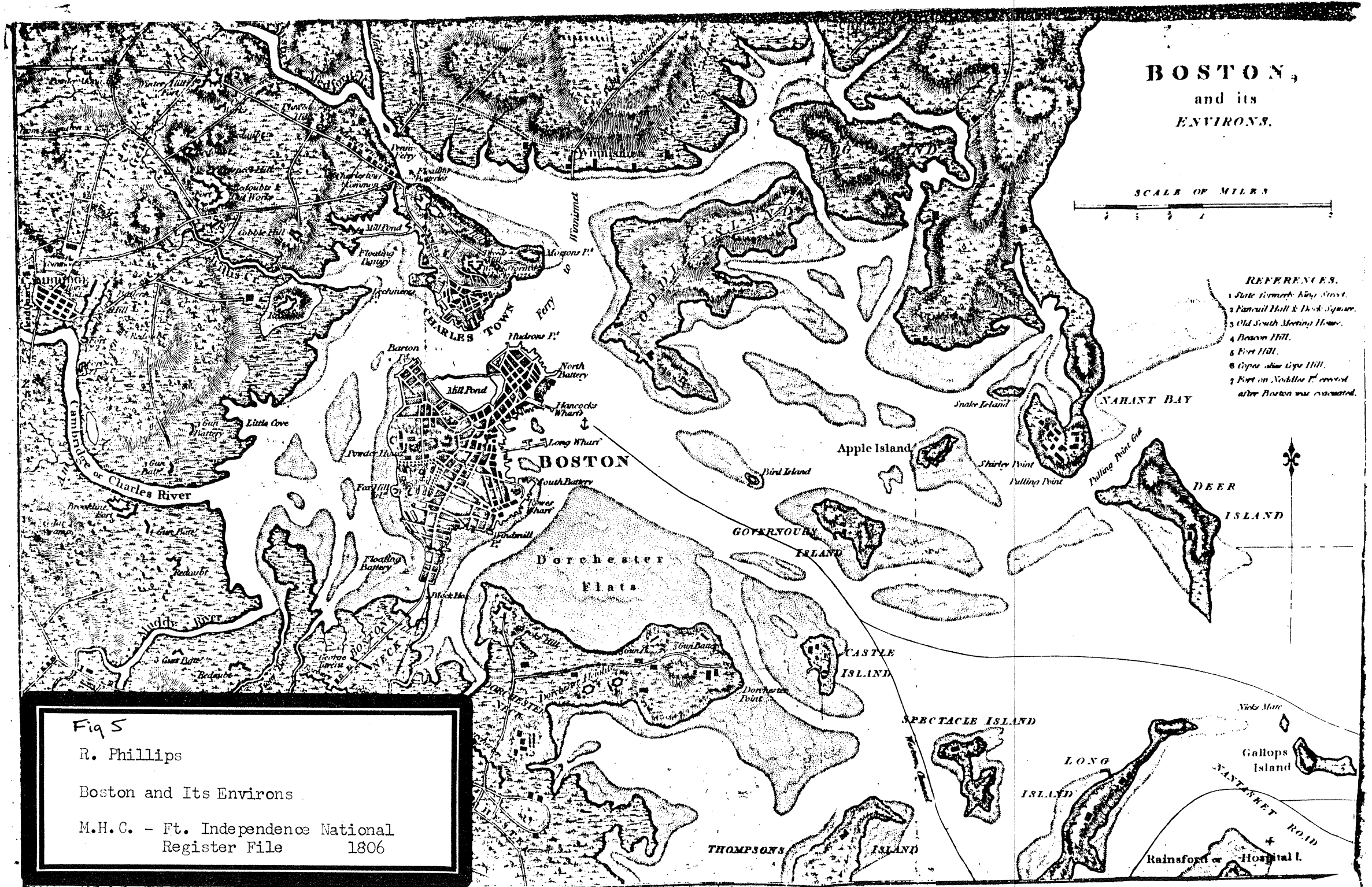
Originally engraved in 1728. Reproduced in 1883.

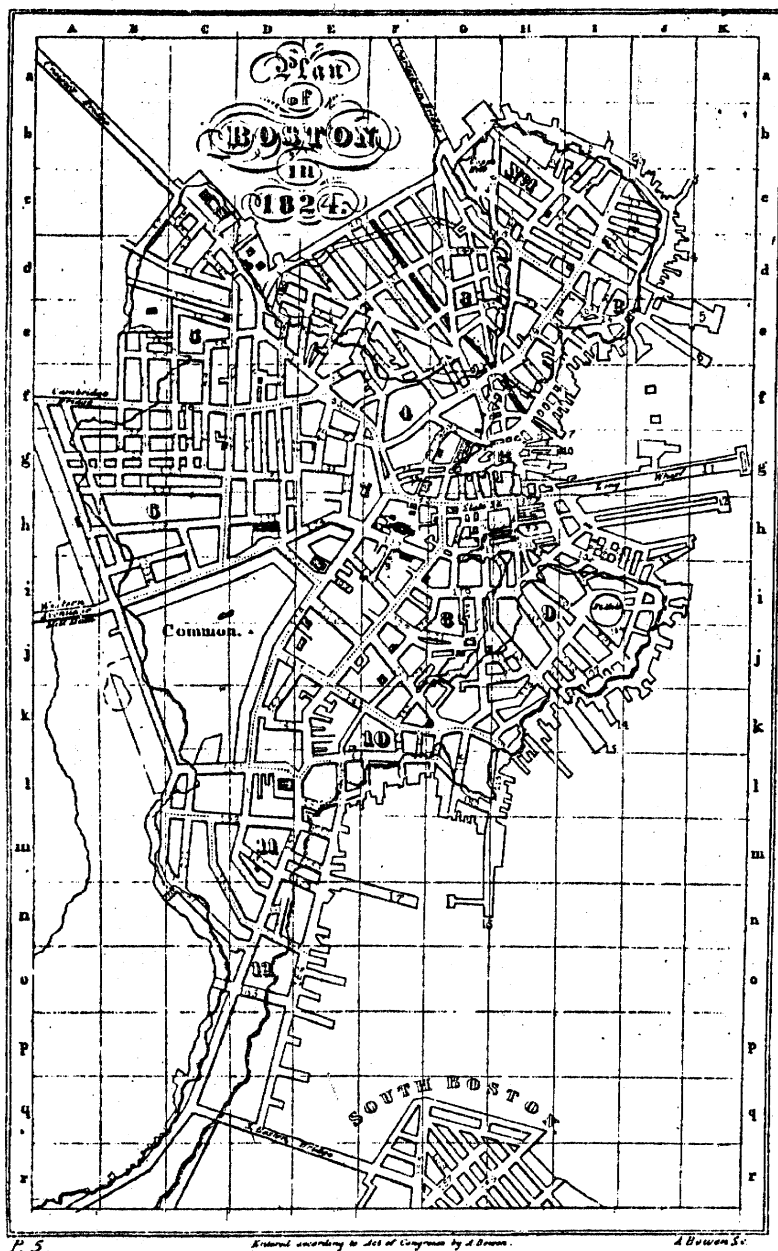
Fig. 4

Reproduction of Burgiss Map

(Boston's Growth)

1728





P. 5.

Entered according to Act of Congress by A. Bowen.

Fig. 6

A. Bowen
Plan of Boston

M.H.S. 1824

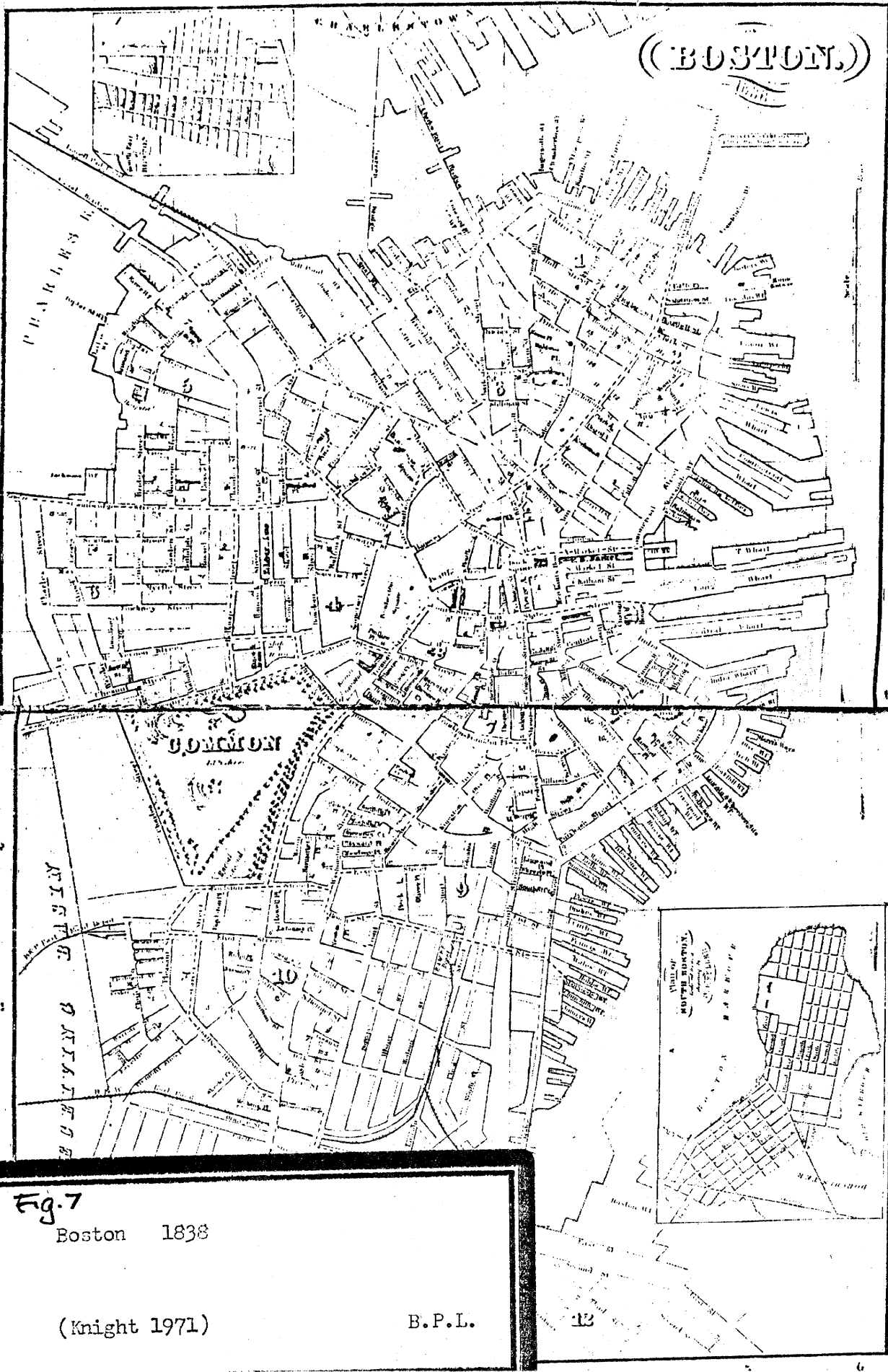


Fig. 7

Boston 1838

(Knight 1971)

B.P.L.

12

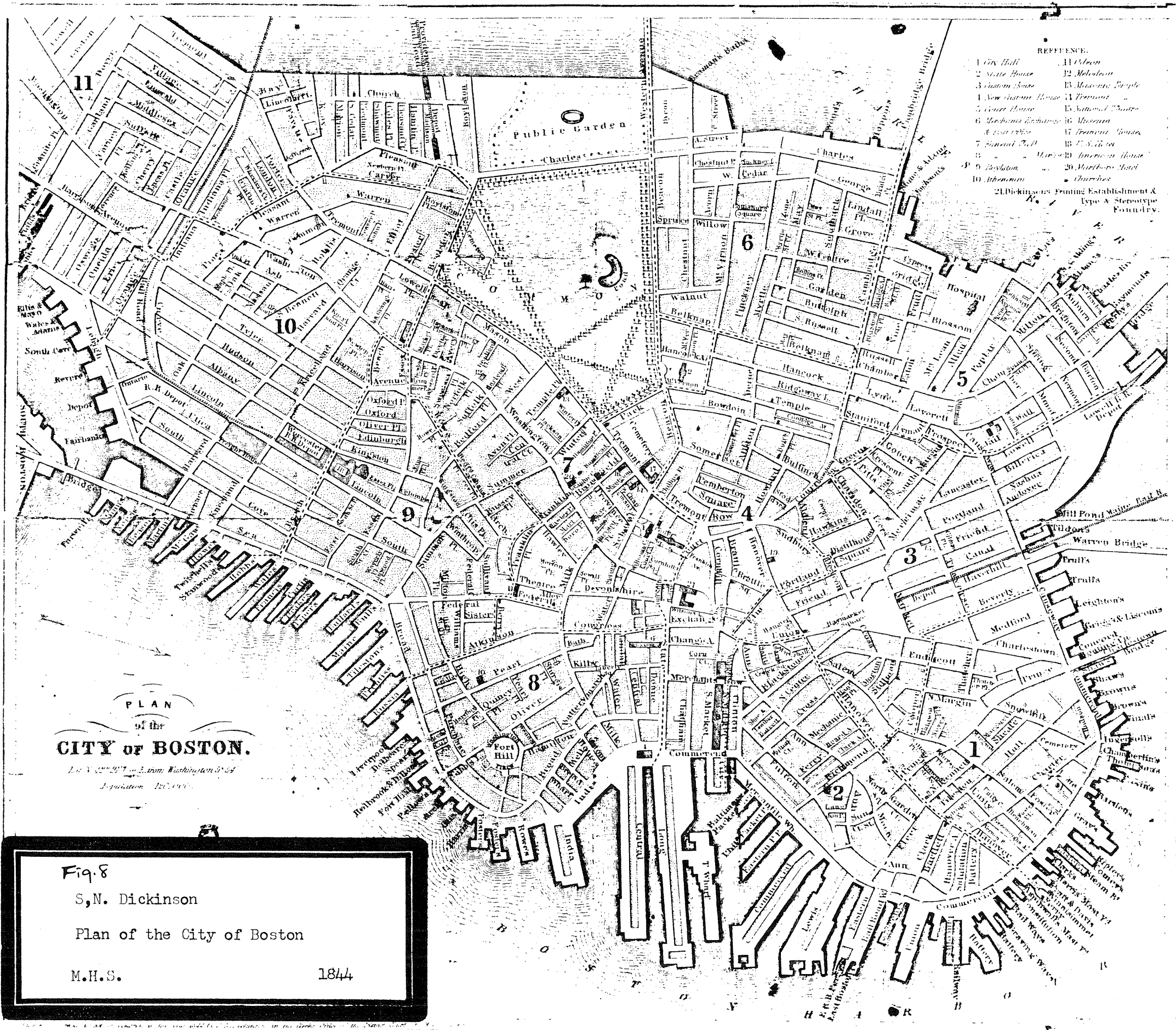


Fig. 8

S. N. Dickinson

Plan of the City of Boston

M. H. S.

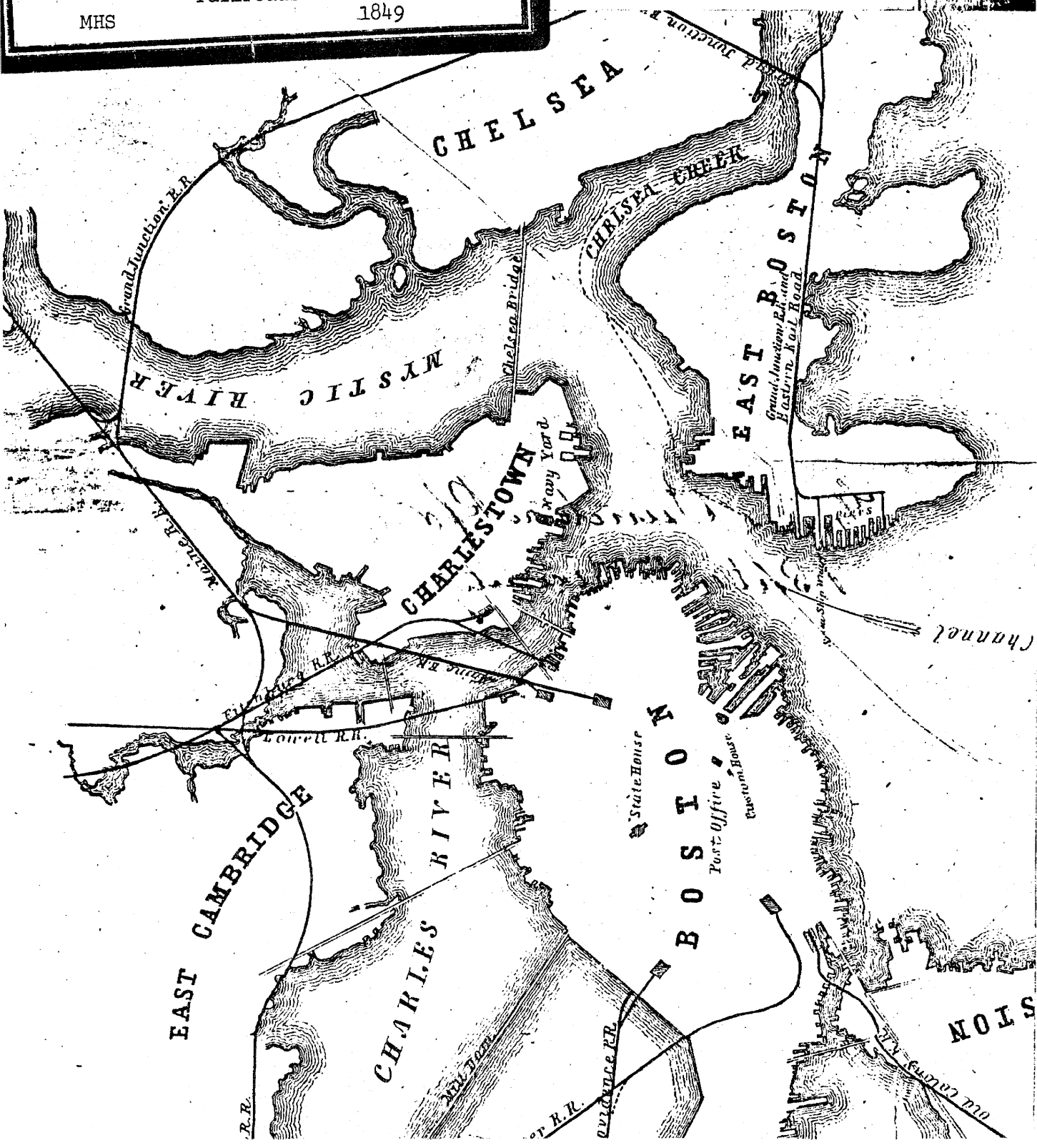
1844

Fig 9

Plan of Boston and its vicinity
showing the connection of the
Grand Junction Railroad
with the harbor and other
railroads

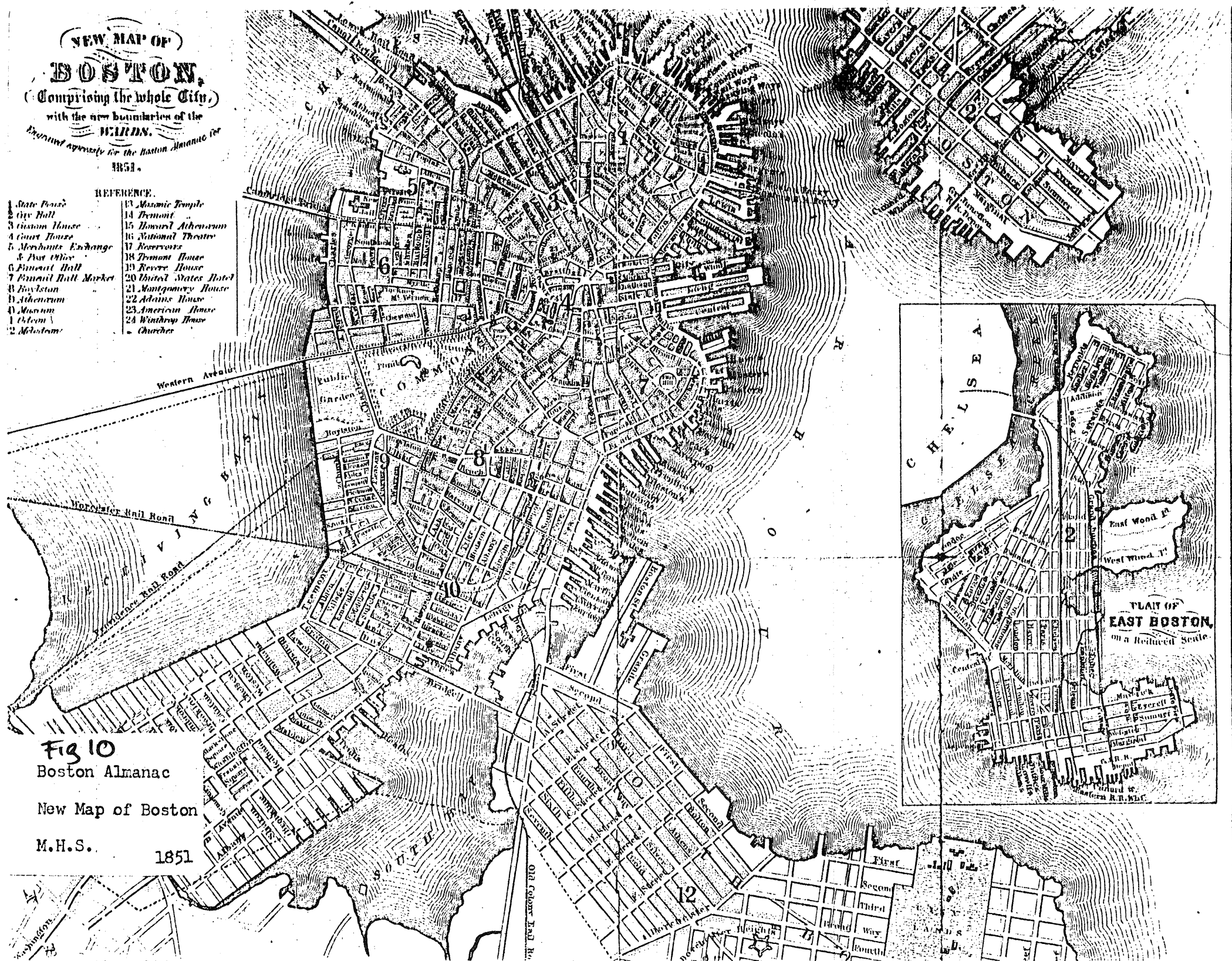
MHS

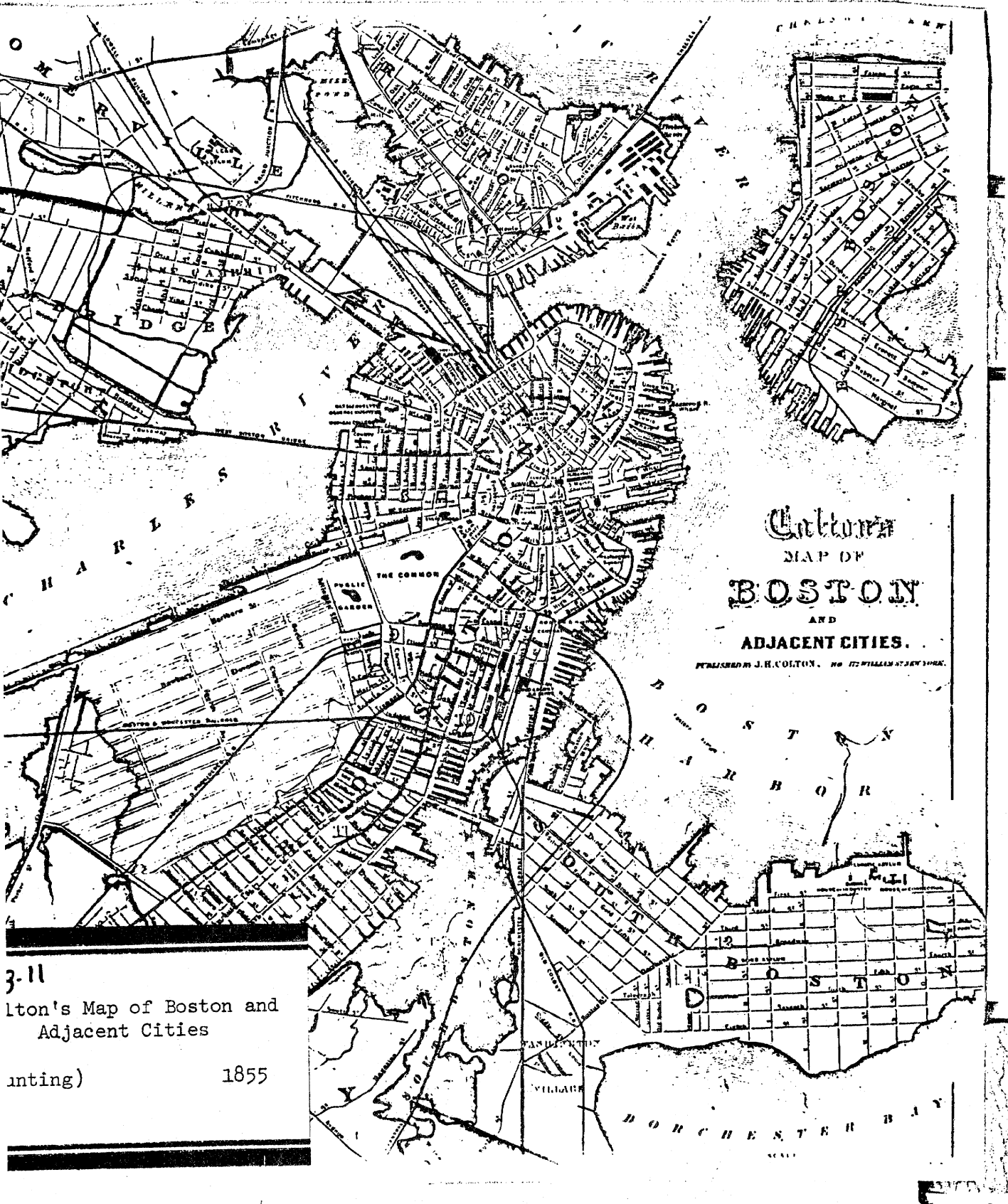
1849



**NEW MAP OF
BOSTON.**
(Comprising the whole City.)
with the new boundaries of the
WARDS.
Entered according to Act of Congress in the year 1851, by
M. H. S.

- REFERENCE.
- | | |
|-----------------------|------------------------|
| 1 State House | 13 Monument |
| 2 City Hall | 14 Fenwick |
| 3 Custom House | 15 Howard Athenaeum |
| 4 Court House | 16 National Theatre |
| 5 Merchants Exchange | 17 Reservoir |
| 6 Faneuil Hall | 18 Tremont House |
| 7 Faneuil Hall Market | 19 Faneuil House |
| 8 Bowdoin | 20 United States Hotel |
| 9 Athenaeum | 21 Montgomery House |
| 10 Museum | 22 Adams House |
| 11 Old State House | 23 American House |
| 12 Old State House | 24 Winthrop House |
| | Churches |





3-11

lton's Map of Boston and
Adjacent Cities

enting)

1855

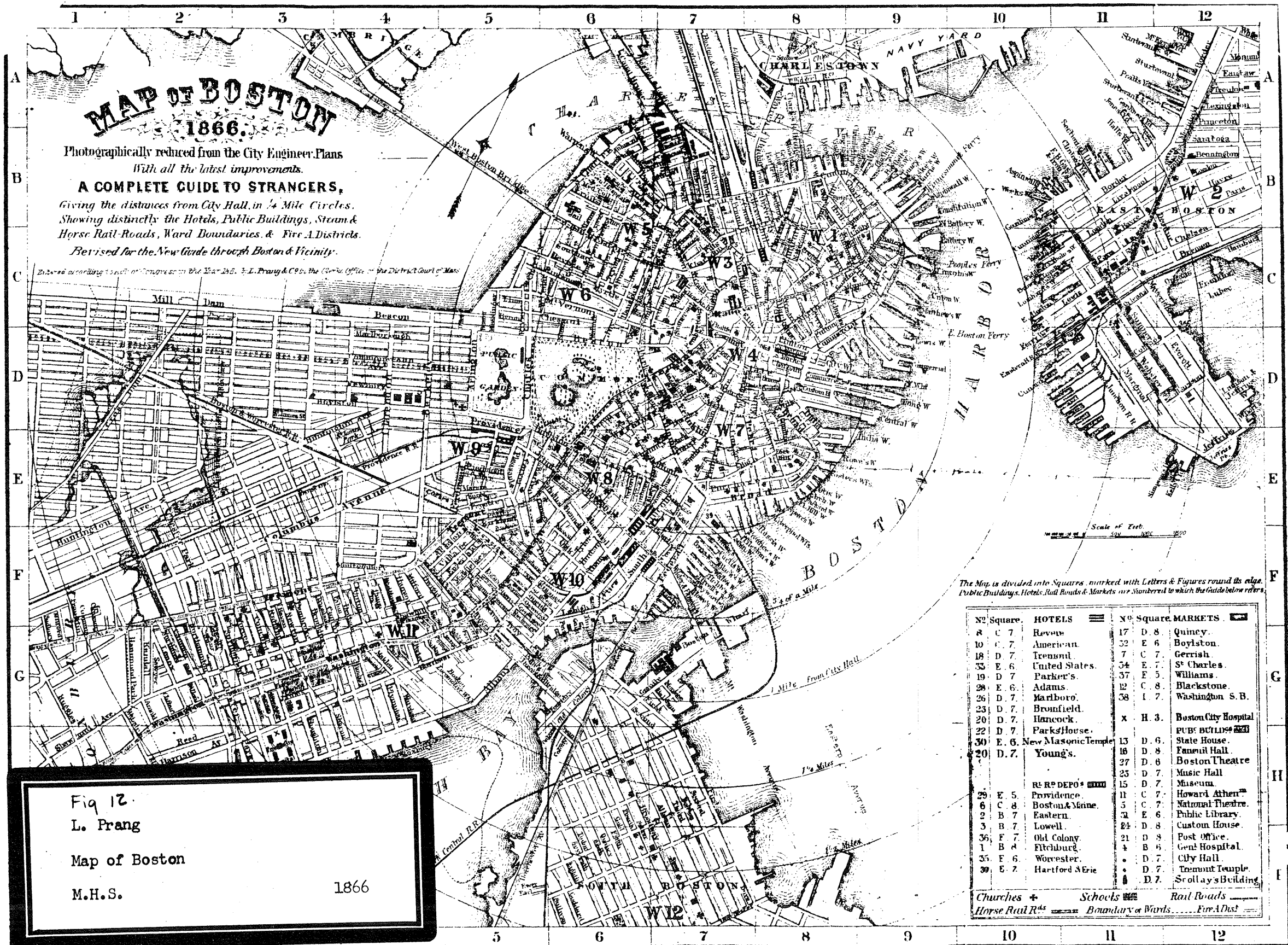


Fig 12.

L. Prang

Map of Boston

M.H.S.

1866



Fig 13

Sampson, Davenport and Co.

M.H.S.

1882



Fig 14
J. Mayer & Co., State Street
Map of Boston
1883 M.H.S. 1883



Fig. 15

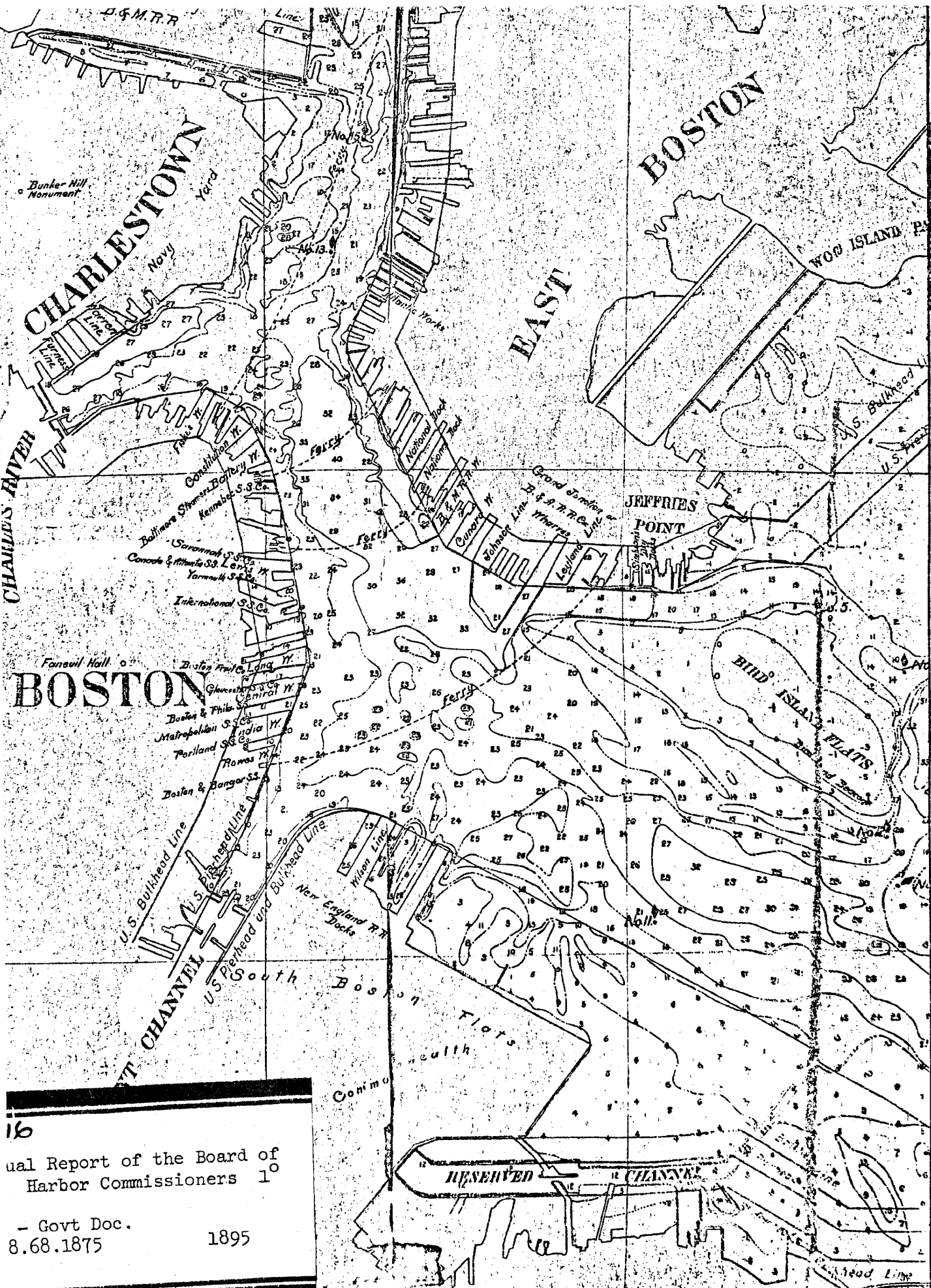
Sampson & Murdock & Co.
Map of Boston

(Bunting) 1886

MAP OF
BOSTON
1886

PUBLISHED EXPRESSLY FOR THE
BOSTON DIRECTORY
BY
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155 FRANKLIN ST.
BOSTON

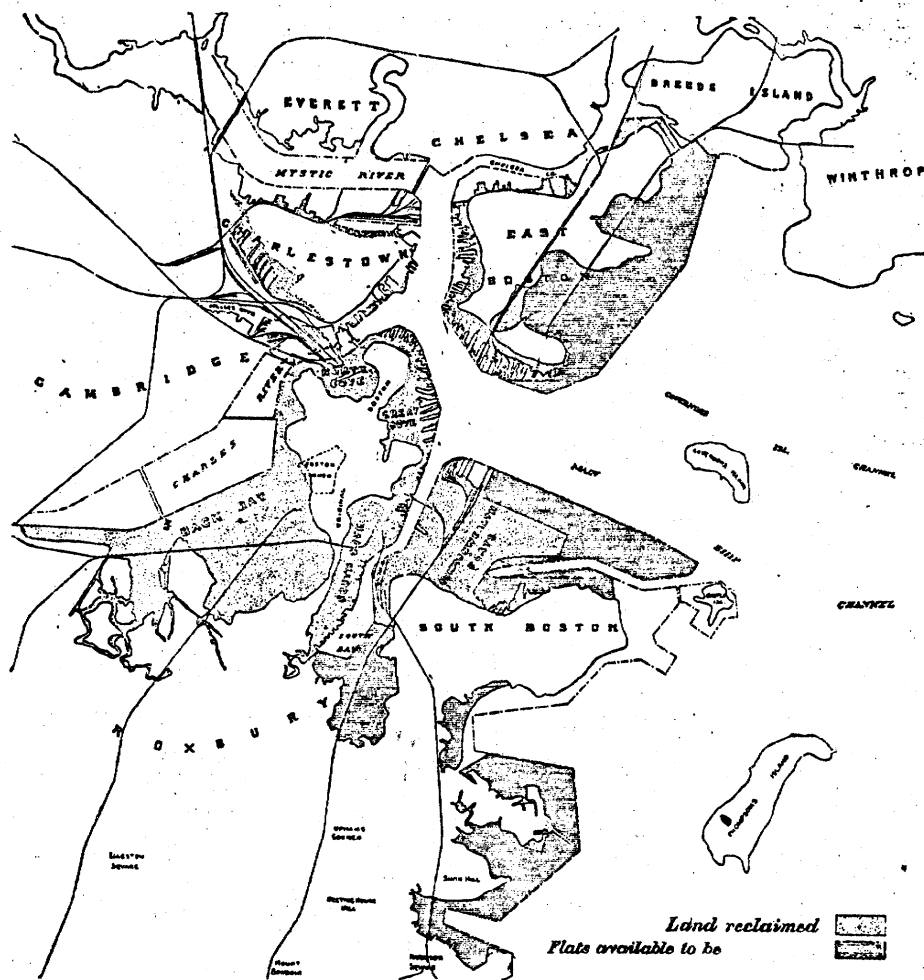
Scale 100 Rods to an Inch
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USGS Topo Sheet
Boston Quadrangle
H. M. Wilson, Geographer in charge
M.H.S. 1902



MAP SHOWING LAND RECLAIMED AND LAND AVAILABLE FOR RECLAMATION.

Fig 18

Map showing land reclaimed
and land available for reclamation

(Boston's Growth)

1910

H.B. Humphrey Co., Boston F1919

Some Important Steamship Lines
Docking at the Port of Boston

(American Bankers Assoc.)
(The Port Book Of Boston) 1913

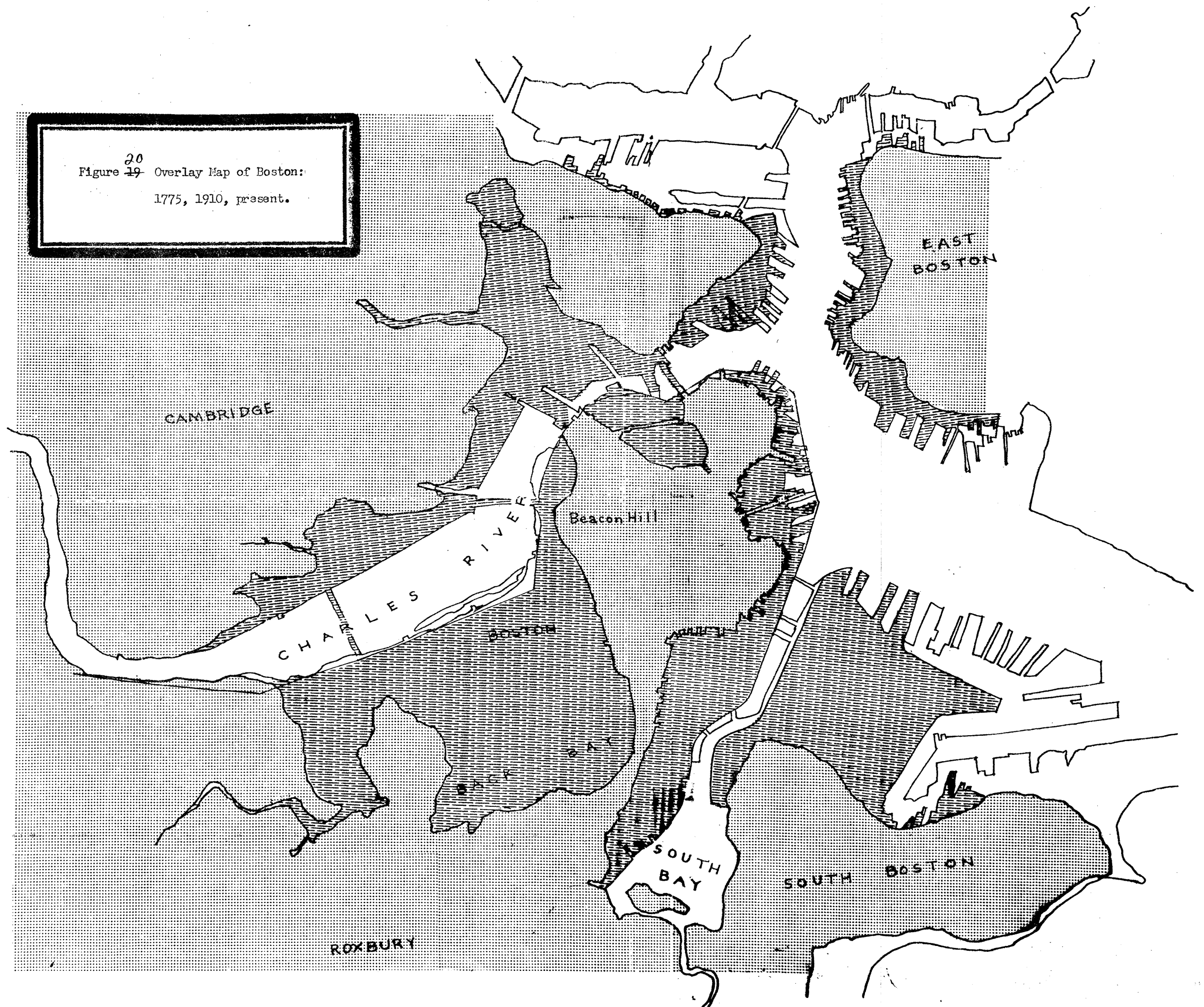


SOME IMPORTANT STEAMSHIP LINES DOCKING AT THE PORT OF BOSTON

- | | | | | | | | | |
|---|---|--|--|---|--|---|--|--|
| No. 1 - Hoosac Docks
Warren Line to Liverpool
White Star Line to Liverpool
White Star Line to Mediterranean
White Star Line to Antwerp | No. 2 - Mystic Docks
Wilson and Furness-Leyland Line to London
Scandinavian-American Line to Copenhagen
Allan Line to Glasgow
Hamburg-American Line from Hamburg (Freight Service)
Willoughby Line to Hull
Holland-America Line to Rotterdam | No. 3 - Boston & Albany Docks
Havana Line to Havana
American-Indian Line from Calcutta
China-Japan Line from Yokohama
Clay Line from Fowey, England | No. 4 - National Docks
Cunard Line to Liverpool
Leyland Line to London
Leyland Line to Manchester
North-German Lloyd Line to Bremen
Russian-American Line from Libau | No. 5 - Boston & Albany Docks
Cunard Line to Liverpool
Leyland Line to London
Leyland Line to Manchester
North-German Lloyd Line to Bremen
Russian-American Line from Libau | No. 6 - Commercial Wharf
Plant Line to Halifax, N.S.
Boston Fishing Fleet | No. 7 - Central, India and Foster Wharves
Eastern S. S. Co. to St. John, N.B.
Boston & Yarmouth S. S. Co. to Yarmouth, N.S.
Eastern S. S. Co. to New York
Eastern S. S. Co. to Bangor, Me.
Eastern S. S. Co. to Bath, Me. | No. 8 - Flisk & Harris Wharves
Merchants & Miners' Line to Philadelphia
Merchants & Miners' Line to Baltimore | No. 9 - Constitution Wharf
Merchants & Miners' Line to Baltimore
No. 10 - Battery Wharf
Merchants & Miners' Line to Baltimore |
|---|---|--|--|---|--|---|--|--|

Copyright 1913 H. B. Humphrey Co. Boston

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Figure 19 Overlay Map of Boston:
1775, 1910, present.



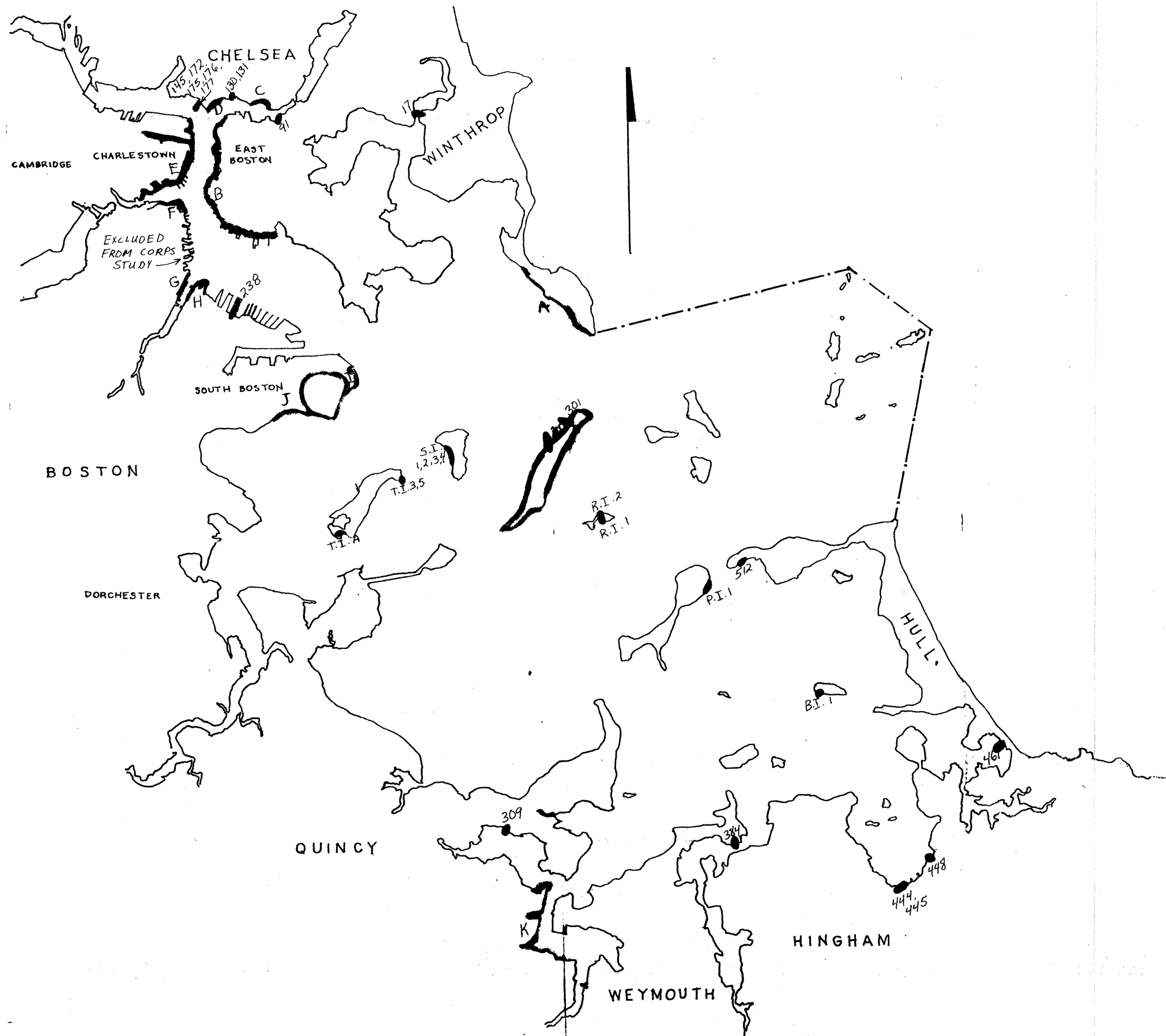


Figure 21 Potentially Sensitive
Areas and Structures.

C. General Economic Development and Relations

1. Location of Port of Boston

The topography of Boston harbor, taken in isolation, is well suited to shipping with its naturally deep channels and the protection afforded by island waterbreaks. Although the natural advantage which Boston enjoys is a necessary pre-condition for economic success, it is in no way sufficient for such success. A port represents the intersection between a terrestrial economic hinterland and maritime trade; the well-being of the port requires dynamic interchange between these two areas.

The New England hinterland of Boston harbor is largely deficient in agricultural bulk staples or other natural resource export materials, leaving industry as the primary source of exports. Moreover, industrial exports, such as the paper, textiles, leather, instruments, machinery, rubber and plastics produced today (Cellineri 1976:47) require importation of raw materials and fuel, while yielding export goods of low bulk and high value. This situation does not attract concentrations of shipping since full holds are demanded to justify the trip. In addition, New England industrial products are largely consumed by the domestic market, further removing incentive for foreign trade. This dilemma has forced Boston into the role of a regional port during much of its history, supplying New England with essential imports but not enjoying the benefits of booming

exports. New England is, in effect, poorly integrated with the rest of the continental United States by virtue of its geographical configuration; Boston serves as an entrepôt to this region, while New York draws from Boston and dominates commercial shipping for the rest of the northeastern United States.

Boston's effective hinterland has not always been so restricted: Boston was once a port more prominent than New York. The processes by which Boston was reduced from a port of national prominence to one of simply regional importance are at once geographical, demographical and political -- Cellerini (1976:46) lists "geographical disadvantages; increased competition; shifting centers of population, consumption and production; and a discriminatory cost structure" -- operating through the past one hundred fifty years. The changing activities that have been located in the harbor over this span of time bear witness to these processes, making the present status of the port of Boston an extremely unreliable indication of its former glory.

2. Trade & Economic Trends

The first European settler in Boston was the Reverend William Blaxton, who settled near Beacon Hill in 1625. His solitude was broken five years later with the arrival of Winthrop and his followers. Shipping was an important Boston Harbor activity from the beginning; Bendall's Cove served as the center of commerce from 1634 when the Town Dock was established in what is now the FanueilHall Square area. Prior to the English Civil War, the growth of the colonial maritime commerce was closely regulated by British law and control over shipping. However, during the seven year period of the civil war (1642-1649) strictures against colonial commerce were loosened, and trade, largely independent of direct British control, developed. This trade was centered on the West Indies sugar production which supported a New England rum industry.

In 1660 Britain passed a Navigation Act which was designed to suppress the autonomy of colonial trade by permitting importation only through British-owned ships manned by British crews, and prohibiting exportation except to Britain. However, this Act was not usually enforced by British governors of the Massachusetts Colony, and it did not adversely affect the Boston economics to any great extent. Similarly, the Molasses Act of 1733

failed to reduce colonial shipping between New England and the West Indies in favor of British shipping, as a standard ten percent of the profits of this trade was used to bribe customs officials. On the other hand, the Navigation Act of 1673 taxing colonial coastwise trade did a disservice to the Boston economy by limiting the lucrative trade with the Virginia colony.

As can be inferred from the food shortages in the Boston area that resulted from Queen Anne's War (1702-1713), Boston was dependent upon maritime commerce for its existence even in the beginning of the 18th century. Shortages were so severe as to provoke grain riots in 1711 and again in 1713.

The increasingly effective British measures aimed at siphoning off profits made by colonial maritime commerce exacerbated the prolonged economic depression Boston experienced through the middle of the 18th century. The Massachusetts Revolutionary rebels were not only motivated by a desire for parliamentary representation, but also by a desire for commercial freedom unimpeded by British regulations.

During the colonial period, improvements of harbor facilities came primarily from private citizens rather than from public sources. Although no record of the first wharf built in the harbor exists, by 1645 eighteen wharves had been constructed in addition to the Town Dock in Bendall's Cove. In 1641 the Cove was granted to a group

of merchants for construction of wharves: a similar grant to the North Cove opposite Charlestown was made in 1643. Building continued steadily through the 17th and 18th centuries. By 1708 Boston and Charlestown contained a total of 78 wharves, despite one fire in 1653 which caused considerable damage in the dock area, and another in 1679 which destroyed some seventy waterfront warehouses. During the pre-Revolutionary 18th century, harbor front development is associated with the opening (1713) and subsequent enlargement (1719 and 1763) of Long Wharf, though building occurred in other parts of the harbor as well. Long Wharf, extending well into deeper harbor waters, became the major focus for Boston's shipping (see Fig.3&4).

The Revolutionary War virtually ended commercial activity of the port, as the British first occupied, and then blockaded the harbor. Economic activity had been directed towards the conflict, leaving fishing and merchant fleets unprepared, and shipbuilding unequipped for the end of hostilities. This unpreparedness was prevalent along the entire eastern seaboard, contributing to the economic depression that seized the former colonies in the years following the war. The American fleet's inability to resume normal activities was compounded by British action closing much of the West Indies to American

ships. France and Spain also closed their Indies ports for a short time; British possessions in the West Indies were not legally opened to American merchants until 1830 (although illicit trading had resumed prior to that date).

The economic depression was ended in 1788 by which time trading activities had resumed. Commerce was also stimulated by customs regulations advantageous to American shipping that were set up by the new Federal Government in 1789. Because the re-establishment of former trade patterns had been denied by British actions, new trading relations were developed. In the New England area, Salem led this development, and it was not until 1802 that Boston passed Salem as the major center for foreign trade. Political conditions in Europe (i.e. the confrontation between Britain and France during the last part of the 18th and early 19th centuries) kept Britain preoccupied and enabled American merchants to establish trade with Baltic, Russian and Mediterranean ports. The Russian trade in particular was extremely profitable with the closing of European ports to neutral shipping.

These trading connections were unstable, however, especially because of the British blockade of the continent and the activity of British and French privateers. Jefferson responded to this threat to American shipping by imposing a total embargo on foreign trade from 1807 to 1809. This

action virtually closed the port of Boston, and was devastating to the New England economy. The War of 1812 followed closely, a war which also closed down Boston shipping. The Embargo and War were so unpopular in New England that representatives of the six states met in Hartford, Connecticut in 1814 to consider secession from the union. The war ended before these contemplations could be translated into action, and the port of Boston was once again free to engage in foreign trade.

Concomitant with the opening of trade with European ports following the Revolution was the emergence of the extremely lucrative trade with China, India and the Spice Islands. As with the trade with Europe, Salem was the early leader in this trade, but Boston soon passed Salem, particularly in the Cantonese trade. However, the New England economy did not produce goods sought by the Chinese; this difficulty was circumvented by exchanging such products as cloth, shoes, iron nails with the Northwest Coast Indians for luxury goods (notably black sea otter pelts), which in turn were traded in Canton for tea, silk, and china ware. Since such trade did not require large capital outlay and could be conducted on an individualistic basis, large private fortunes were accumulated by entrepreneurial ship captains.

Jefferson's embargo of 1807 extended to the Cantonese

shipping, to its detriment, and the War of 1812 virtually eliminated the trade. After the War, New York captured much of the Cantonese trade, forcing Boston to seek alternative trading connections. Furthermore, European commercial shipping challenged the monopoly of the American merchant fleet in global trade after the establishment of peace on the continent.

During the years that followed the War of 1812, Boston's trading activities gradually renewed. Many of the former patterns continued, though in reduced importance; Boston was the principal American port for re-export of goods from the Baltic, the Mediterranean, and India during the 1820's and the 1830's. However, during this period, New York passed Boston as the major Eastern Seaboard port, though much of the tonnage putting in at New York was Boston owned, and therefore much of the profits stayed in Bostonian fortunes.

The failing Cantonese trade profits were bolstered by trade in ice to points south and east from Boston. Frederick Tudor had begun experimenting with shipping ice in 1805. By 1840 he was exporting ice to Argentina, India, the Near East and other areas, and had fifteen competitors in the Boston area alone. By the second half of the 19th century, this trade had passed from Boston hands into those of Maine, Canada and Norway.

The forty years following the war with the British witnessed a great expansion of American shipping in response to a greatly increased demand for deep water trade. However, Boston's position vis-a-vis other American ports declined, although she remained one of the great shipowning centers of the world. Moreover, during this time, Massachusetts was industrializing rapidly, and by 1840 was predominantly a manufacturing state. The port of Boston permitted the importation of raw material which was a pre-requisite for establishing new industries. Most of this traffic was brought in by coastwise shipping, while deepwater tonnage putting in at Boston was decreasing.

The increase in coastwise shipping was in part due to the re-ordering of the eastern seaboard economy brought about by industrialization and more efficient inland transportation. Another factor contributing to the increase of coastwise shipping at the expense of deepwater commerce was legislation concerned with maritime commerce, both at the federal and local levels. In 1819, as a result of a financial panic, heavy tariffs were imposed on cotton from India, on woolen goods from Great Britain, and on other materials competitive with growing American industries. These discriminatory tariffs were eliminated in 1828, but by that time Massachusetts had moved to exact a one percent tax on all auction profits, which was in force from 1824-

1852, a move which provided incentive for deepwater ships to put in at New York and other ports.

During the 1840's and 1850's Boston had a superficial air of prosperity prior to the depression of 1857, with a fairly high absolute tonnage bringing goods from California (chiefly hides), Argentina, and the American South. However, the situation was unstable since internal transportation connections (e.g. railroads) were increasingly focussed on New York, and bulk exports from Boston were decreasing. By the 1850's exports amounted to less than half of the imports annually, since most of the manufactured goods that were potentially exportable were consumed domestically. As Cellineri (1976:8) observes, "port activity gradually became oriented around the functional priorities of supplying food for the region's (i.e. New England's) growing population, and fuel and raw materials for its growing industries." Most of Boston's export trade was merely transshipment.

The famous clipper ship era, which lasted only the twelve years between 1845 and 1857, actually had little economic impact on the port of Boston outside shipbuilding as an economic activity. However, this short-lived activity represents an important era of the cultural heritage of Maritime Boston. Clipper ships were built as a response to the demand for rapid passage at high rates, spurred on by the California gold rush. Due to their design, cargo

capacity was not large; moreover, most of these ships operated out of New York rather than Boston. However, Boston was the center of clipper production and the shipyards in East Boston and surrounding communities were among the busiest in the world.

The depression of 1857, followed by the economic disruptions of the Civil War, severely reduced Bostonian shipping. The war years witnessed massive selling of American tonnage to foreign concerns, resulting in a sudden decrease in the percentage of foreign commerce owned by American firms. This percentage dropped steadily through the rest of the 19th century, from 65% in 1865, to 13% in 1890 (Baker 1969:220). In Boston itself, the 1860's marked a sharp decline in prosperity due in part to the general national economic condition, and in part to the slowness of the port's adoption of steam. Even before the Civil War, Boston's owned steam tonnage was only a tenth of New York owned tonnage.

Boston rebounded in the 1880's, with prosperity continuing to the turn of the century. This boom coincided with the rise of the great New England textile centers; Boston during these two decades was second only to London as the world wool importer. However, much of the manufact-

ured woollen goods were absorbed by the domestic market, leaving Boston without an industrial export staple. In this case, the deficiency was obviated by efficient railroad systems which brought western grain produce and livestock to Boston for export, permitting exports to outstrip imports during this period of prosperity.

In 1882 preferential railroad rates were granted to Philadelphia and Baltimore, while New York and Boston were rated equivalently. These rates were not strictly enforced until 1903, at which time, since terrestrial transportation is more costly per unit weight than marine, shipping from Boston declined in favor of the preferred ports (Cellerini 1976:22). In 1916 the North Atlantic Conference on steamship lines moved to equalize ocean rates to all North American ports, thus removing the pretense of geographical closeness to European ports (Cellerini:1976:23). Consequently, grain exports dropped radically, from 270,000 tons in 1910, to 140,000 tons in 1929, to 8,000 tons in 1938 (Cellerini 1976:25). The ratio of imports to exports similarly dropped; from the end of the 19th century when exports outweighed imports, the ratio worsened from 4:1 in 1920 to 10:1 in 1929 (Cellerini 1976:18). The economic effects of the World War I temporarily offset this trend, but the world economic recovery of the mid-twenties soon removed this gain as European ports re-entered and competed with

Boston. Even wool imports had declined by the late twenties, and the Great Depression completed the decline.

3. Transportation

The economic vitality of the port of Boston has been integrally linked with efficient transportation systems since the Revolution. The first of these was the canal network that was built in the early 19th century. From the perspective of Boston, the most important of these were the Middlesex Canal and the Erie Canal, the former in a positive and the latter in a negative way. The Middlesex Canal, running from Chelmsford and the Merrimack River to Charlestown, was completed in 1803 and remained in operation for half a century until 1851. This waterway permitted transportation of bulk cargo at moderately low rates, thus aiding materially the growth of Massachusetts industrialization. Against this, the Erie Canal connected New York, via the Hudson River and the Great Lakes, with the agricultural midwest, thereby attracting shipping away from the less advantaged ports, including Boston. The disadvantaged position of Boston was exacerbated with the coming of railroads. Bostonians realized the importance of railroads and invested in them heavily, but unfortunately did not make a concerted effort to bring about a well-integrated network of tracks. In

particular, a single line did not penetrate the Berkshire Mountains, separating New England from the rest of the country until 1867, some thirty years after rail service to Boston had opened.

The first railroads operating to Boston, the Boston and Providence, the Boston and Lowell, and the Boston and Worcester Railroads, opened within a few days of each other in 1835. These lines were privately financed and, since mutually competitive, unarticulated. So successful were they that by 1847 eight independent lines serviced Boston (see Fig. 9). Travel by two different lines (Western Railroad and Boston and Worcester Railroad) to Albany was possible after 1841, though because of rate increases involved in changing lines and the absence of connection with Boston Harbor, this connection did not divert much of the Erie Canal traffic to Boston. An attempt was made to place a terminal on the waterfront, but the ensuing silting prevented ocean going vessels from using it.

Figure 9 indicates that as of 1849, the only major railroad line servicing the harbor was the Grand Junction Railroad, located in East Boston. Other lines, the Old Colony Railroad for example, put in near the harbor, but did not link up with harbor facilities. In 1855 the New York Central (later the New York & New England Railroad) had put a line into the harbor area of southern Boston.

By the 1880's, an important complex of harbor railroad facilities had been constructed by the Boston & Lowell Railroad, and serviced the Mystic River Corporation on the Mystic River in Charlestown (see Fig. 13). Boston & Maine Railroad had also opened terminals in Charlestown. By the turn of the century, the facilities in Charlestown and East Boston had been expanded, and the New York, New Haven & Hartford Railroad, having taken over the New York & New England, and the Old Colony railroads built large terminals on the harbor in South Boston (see Fig. 17).

4. Coastwise Trade

Thus far, coastwise trade has been mentioned only in passing, with discussion concentrated on deepwater shipping. The economic prosperity of Boston seems to have been more directly related with the health of deepwater traffic operating out of the port than with any other mode of maritime transportation: the trends displayed by coastwise as opposed to deep water shipping differ considerably. In contrast with deepwater ventures, which showed great fluctuations in vitality, coastwise traffic increased in volume steadily throughout the 19th and into the 20th century. This continual advance was reversed only in the years 1813-1814, 1829-1830, 1866-1869 and 1876-1878 (Baker 1969:222). Amazingly, while in 1929 Boston was ranked only eighteenth

nationally in deepwater tonnage, Boston was first in coastwise tonnage.

The primary impetus to expanding coastwise shipping came from two factors: the need for the Boston metropolitan area to maintain itself, and the demand for raw materials for the growing New England industries. Boston was heated first by wood, and later by coal during the 19th century; these fuel sources were brought by coastwise shipping. Similarly, much of the petroleum and natural gas needed for heating during this century is transported by ships. Grain was brought in from Baltimore in the first half of the 19th century, as were other food stuffs from more southerly ports (Bunting 1971:7). Also from southern ports came raw cotton important for the New England textile industries. In return, Boston shipped manufactured products to other American ports, and until the severe decline of foreign commerce, the exotic imports brought to Boston by deep water shipping. Between 1832 and 1849, the imports of the southern cotton increased ten-fold, while from 1830 to 1850 arrivals of anthracite from Philadelphia alone increased twenty-fold. Over the same two decades, total coastwise arrivals virtually doubled, indicative of the pace of New England industrialization and of the growing dependence of the port of Boston on coastwise activity.

By the 1920's, coastwise traffic constituted over two-thirds of the port's business, with coal receipts accounting for well over half of this traffic (Cellineri 1976:8-9).

5. Shipbuilding

Boston harbor has an extremely rich tradition in shipbuilding. The first vessel built in the Massachusetts Bay Colony was constructed in Medford in 1631; Medford, a town outside the project area, remained a major shipbuilding center through much of the harbor's history.

Prior to the Revolution, Great Britain depended heavily upon American shipbuilding; in the middle of the 18th century, one in every four ships of British register was American built. Boston did not contribute much tonnage to this activity, but rather constructed vessels for local ownership and local trading ventures. As a result of the mid-century depression, Boston's shipbuilding was dislocated in favor of Newburyport, and did not fully recover until after the Revolution.

Boston shipbuilding boomed after the economic recovery following the Revolution. The Middlesex Canal allowed efficient transportation of the lumber from the interior to the harbor. However, shipbuilding continued to be centered in Medford until the 19th century, specializing in

speedy vessels for the China trade.

The Mystic River was found to be too shoal to permit deep draught vessels egress, and by 1850 the major shipyards in the harbor were located in East Boston (see Fig. 10) where a sophisticated shipbuilding complex was established. The first prominent shipyards were established in 1839 by Samuel Hall. By 1855, ten yards building full-rigged vessels were located in East Boston (see Fig. 11) (including holdings by Hall, McKay, Curtis, Booles and others); nine others were doing similar work in Medford, Chelsea, South Boston, Charlestown and Quincy (Bunting 1971:71). The following year, three additional yards opened in East Boston (Baker 1969: 185).

The economic effects of the Civil War completely disrupted shipbuilding and Boston's industry never recovered after the war. Competitive yards in Maine undercut Boston's construction costs, and global demands for shippage were depressed. By 1880 the primary function of Boston yards was the repair of Maine built vessels, construction being restricted largely to locally operated ships such as ferries. One exception to this condition was the Fore River Ship and Engine Building Company, which was founded in 1883 in East Braintree, and moved to Quincy in 1901. The Fore River Shipyard was fortunate in securing Naval contracts, which assured its longevity. Shipbuilding in the rest of the

harbor remained bleak. The high demand for tonnage occasioned by World War I afforded only temporary relief to the lack of activity in the harbor.

6. Ferries and Steam Lines

Transportation of people in the harbor has existed on three levels: (1) between communities within the harbor, (2) along the New England coast, and (3) to farther domestic and foreign ports. The importance and extension of these services through the past three centuries has been directly related to the efficiency of terrestrial transportation networks, and to the economic importance of the port. With good railroads and later, highways, ferries within the harbor and out to Gloucester, Maine and other ports virtually disappeared. With the economic decline of Boston, the port was first reduced to a port of call for foreign lines, and then eliminated from transatlantic passenger service.

Three separate ferry services were set up within ten years of European occupation of the harbor: Boston to Charlestown (1631), Boston to Charlestown and Winnissimmet (Chelsea) (1634) and Boston to Noddles Island (East Boston) (1637). These services continued and were expanded into the 19th century. The construction of tunnels below the harbor (eg. 1904 Boston tunnel), removed much of the need for ferries (Koren 1923:173,

though service to, for example, Hingham and Hull continued well into the present century, and has, in fact, recently been revived.

Passenger service to ports in the regional coast flourished in the 19th century, spurred on by the difficulties of putting in railroads to Maine and the Maritime provinces. Between 1840 and 1860 separate lines ran from Boston to Portland, Bangor and the Kennebec (Bunting 1971:286), with other lines running to Gloucester and Cape Cod. These lines were consolidated into monopolies following the Civil War, until by 1901 all the Maine lines were operated by the Eastern Steamship Company; the Canadian firm, the Canada Atlantic Steamship Company serviced the Maritime Provinces during the second half of the 19th century.

Links with ports to the south were similarly established in the 19th century; by 1850 New York, Philadelphia, Baltimore, Charlestown, and New Orleans were connected with Boston by regular lines. However, these runs did not long survive the Civil War for the most part.

Passenger service all along the Eastern seaboard had virtually disappeared by the 1920's, a result of competition from railroads and highways.

Oceanic service to Boston shows a similar pattern of growth. Following the abortive Boston and Liverpool Packet

Company (which ran from 1822 to 1827 and folded because of the lack of a staple export) the British & American Royal Mail Steam Packet Company (later the Cunard Company) selected Boston as a principal terminal port in 1840. The lack of bulk cargo again faced Boston, and in 1848 Cunard switched to New York as its principal American port, with Boston as a port of call. Efforts were made to rectify the lack of service (e.g. the American Steamship Company, which operated out of Boston between 1865 and 1869), but Cunard suspended all service in 1868, leaving Boston virtually without service. When the Boston & Albany Railroad constructed expansive harbor facilities at the Grand Junction Terminal in East Boston ensuring good connections between the harbor and its hinterland, Cunard resumed its service (1871), which continued until 1967, though with steadily decreasing importance.

7. Fishing

Boston has traditionally served not as much as a home-port for fishing fleets (though at times, the fishing fleet has been considerable), as much as a central market for the distribution and export of the catches from the fleets of other New England communities. One of Boston's principal exports during the colonial period was salted cod; the city's own consumption through the first half of the 19th century concentrated on mackerel. During most of the

19th century and into the 20th, Gloucester was the leading fishing port of North America. Railroad links with Boston were established in 1846, permitting the rapid growth of the fresh fish industry, increasingly centered on Boston. Boston's own fleet expanded in the early part of this century, surpassing Gloucester's in the 1920's, as evidenced by the opening of the Boston Fish Pier in 1914. Boston's fishing has now declined in favor of more northerly ports.

8. Maintenance

The maintenance activity category is a kind of catch-all for a variety of institutions and organizations which contributed to the daily functioning of the harbor. Most of these institutions are still operating in some capacity, since they are crucial for safe and efficient port dynamics.

On the local level, a variety of City and privately run organizations contributed to harbor maintenance. In 1852 the City Harbor Committee was established to oversee land modifying projects in the harbor. The Committee was particularly concerned with the deterioration of harbor islands due to ballast digging. However, the Committee never established real authority and the State Legislature continued to govern, albeit ineffectually, land modifications

in Boston harbor.

The Boston Tow Boat Company was incorporated in 1872 and based at T Wharf; the company still operates, now out of East Boston. Other important 19th century Tow Boat concerns were: Rogers and Sears, Central Wharf, N.P. Doane, Ross Tow Boat and Suffolk Tow Boat. By 1900 sixty tugs were owned and operated in the port.

One of the most colorful maintenance related jobs were pilots licensed to guide vessels not registered in Boston to dock. In addition to being licensed for Boston, there were special pilots for Hull, the Charles River and the Neponset River, East Braintree, Weymouth and Quincy. The Boston pilot's berth was (and is) at Lewis Wharf.

On the coastal and deepwater spheres of extension, maintenance activities were related to federally operated organizations. The presence of the Federal Government was first felt at Charlestown with the Navy Yard and continued throughout the 20th century by establishing forts on numerous islands in the harbor. The Coast Guard, established in 1915 by combining with the U.S. Life Saving Service and the Revenue Service maintains safety and regulatory services in the harbor.

9. Recreation

Although recreation related activities are not

intricately tied to the economic function of Boston Harbor as a port, they do constitute an important part in the cultural heritage of harbor use. Before the Civil War yachting and resorting were activities carried on by very few people. The first summer resort in which cottages were built was in Nahant in the 1820's. The first open yacht race in the country was held in Boston in 1895.

After the Civil War, recreation activities expanded and were carried on by a broader segment of the population. The first yacht club in Massachusetts Bay was the Boston Yacht Club, established in 1865. The South Boston and Lynn clubs followed quickly in 1868, the Eastern Yacht Club was established in Marblehead in 1870 by a splinter group from the Boston Yacht Club. Within the next fifteen years yacht clubs were established at Hull, Quincy, Dorchester, Charlestown, Chelsea, East Boston and Winthrop, making Massachusetts Bay the greatest yachting center in the world. (Bunting 1976:452).

The first public bathing facility in the country was established at the foot of "L" Street in 1866. Amusement parks were set up near beaches in the late 19th century at Revere Beach and Nantasket Beach (Paragon Park). The Revere facility came under State management in 1893.

Excursion lines around Boston harbor were popular recreational activities in the mid-19th century. The

Nantasket excursion steamer, which left Rowe's Wharf in Boston to landings at Hull and then Nantasket, was one of the most popular and best run small steamboat lines (Bunting 1976:68). The ferry line from Foster's Wharf, Boston serviced the summer resorts at Nahant from 1817. The harbor islands have been targets of pleasure seeking boaters since the 19th century.

D. Topographic Development by locality

From the beginning of settlement of Boston in the mid-17th century, developers have been involved in reclaiming land from the salt marshes and mud flats surrounding Boston. The topographic changes to Boston Harbor have a complicated history which can only be summarized in this study (see Fig. 20). Included in this section are brief descriptions of activities localized in certain areas of the harbor. The chapter is arranged on a town by town basis, starting with Winthrop and winding southward to Hull; the islands are briefly examined at the end.

1. Communities

Winthrop

Winthrop was originally part of Chelsea; it was set off from North Chelsea in 1852 (Clark 1952). Winthrop was basically a resort beach town with very little industry. A copper works (the Revere Copper Company) was established on Point Shirley 1844-1869. A narrow gauge railway was built in the late 19th century from Winthrop to East Boston, establishing Winthrop as a resort/commuting center to Boston. The railway was in operation until 1939 (Clark 1952:150).

Revere

Only a small area of Revere, on the waterfront section at the head of Chelsea Creek is included in this study. Only seven structures are pinpointed, three of which are dilapidated.

Revere was established as a resort beach town, centered on Crescent Beach (originally "Chelsea Beach" now "Revere Beach") (not in study area) (Pratt 1930). The resort originally catered to a "discriminating" class of people, but when the State took over the beach in 1893, it was in "deplorable condition".

Revere had minimal impact upon the functioning of Boston as a port.

Chelsea

The Winnisimmet ferry from Boston to Chelsea via Charlestown was established in 1634. For over one hundred and fifty years the ferry was the most direct route to Boston; travel to Boston by land meant traveling a circuitous route through Malden, Medford, Cambridge, Brighton and Roxbury (Pratt 1930). The ferry landed originally on what are now the grounds of the Naval Hospital, later changed to the foot of Winnisimmet Street. In 1749 four boats were authorized to cover the ferry route. Steamboat service began in 1831, and by mid century a ferry operated every fifteen minutes. In 1851 an omnibus service from the ferry wharf to any part of Chelsea was established. The service operated until the early twentieth century, when competition of tunnels, bridges and

electrical cars forced the end of ferry service.(Pratt 1930)

The first direct land route north from Boston to Essex County was not established until 1803 when the Salem Turnpike was built. The Chelsea bridge from Charlestown to Chelsea over the Mystic was finished in 1802. The toll rate was 72¢ for non-residents and 46¢ for residents. The bridge was made free in 1869 (Bunting 1971).

Previous to the Civil War, Chelsea was a prestigious Boston summer resort. However, with the improved ferry service and immigration influx after the Civil War, Chelsea changed into a congested city. The 1848 population was around 5,000; by 1857 population had risen to 12,000. Salt marshes were turned into working class housing. Pratt (1930:97) remarks that "grasping and unscrupulous avarice found a pretty village and turned it into a city slum."

Chelsea was the mother town of Revere and Winthrop. North Chelsea, later Revere, was set off in 1846; Winthrop was set off from Revere in 1852.

The U.S. Navy set up a hospital on the Chelsea waterfront in 1826. The original structure was closer to the water than the one that now stands.

The mid-19th century shipbuilding boom spilled over Chelsea creek from East Boston. Important shipbuilders

included Pierce & McMichaels and Montgomery & Howard's (Bunting 1971:82-84).

Everett

A short section of the waterfront of Everett, along the Mystic River, is included in the project area. Information on the topographic or economic development of Everett in the port of Boston is mostly negative. No information pertaining to important port activities located on the Everett waterfront has been uncovered. The river frontage is shown as undeveloped marsh on maps as late as 1902 (see fig.17) Since that time, the area has been filled, and the structures necessarily post date this filling.

Somerville

Only a small section of Somerville on the Mystic River is included within the project area. Only two structures, one of which is dilapidated, fall in this area. This section of the Mystic River was straightened by filling operations in Somerville and Everett some time after 1910 (Fig.18). Therefore, the two structures necessarily post date 1910. Secondary sources have not mentioned Somerville in relation to important harbor activities.

Cambridge

A small section of Cambridge along the Charles River

is within the limits of the study. Two structures are within this area. Cambridge has not been mentioned in secondary sources as being important in port activities. The area is filled from the shoreline appearing on the 1902 and 1910 maps (Fig. 17 & 18).

East Boston

The present location of East Boston covers what was originally two islands. Noddles, which makes up the major part of the present waterfront area and Breeds (or Hog) Island which is the northern part further up the Chelsea River (Fig. 5). Present day Logan airport is built on land from Noddles and Governors Islands, and the mud flats and small islands between them. Forty five dilapidated or partially dilapidated structures are on the East Boston waterfront.

A ferry ran between Noddles Island and Boston as early as 1637. However, until the mid-nineteenth century, East Boston remained relatively undeveloped. The 1806 maps (Fig. 5) shows only two small areas of development. However, by 1850 the population in East Boston was 5,000; by the 1870's East Boston was really bustling with an 1875 population of 27,420. In 1905 the population was 50,000 (Bunting 1971). The initial 19th century growth was due to planned development and was advanced by the shipbuilding boom of the 40's and 50's. After the Civil War, East Boston's growth was largely due to immigration (Bunting 1971:52).

By the late 1830's to 1890's the construction of the

Grand Junction Railroad terminal was started, a large facility with a number of piers and a million bushel grain elevator for the Boston and Albany, and Eastern Railroads. The facility was completed in 1869. The Cunard Steamship Line (or the "British and American Royal Mail Steam Packet") took advantage of this terminal, and began a regular route from Liverpool in 1840 (Clapp 1916). The Cunard Line was the first of many trans-oceanic lines to dock at East Boston, as East Boston (along with Charlestown and South Boston) was the location where most deep-water vessels birthed. Other important steamship lines were the Leyland line from Genoa, the Russian-American line and the North-German Floyld Line (see Fig. 19).

In 1839, Samuel Hall, a shipwright from the North River in Marshfield, established a yard in East Boston. Within a decade a number of others followed Hall's example and established East Boston as the most productive and progressive shipbuilding center of the world (Bunting 1971). The East Boston boom was advanced by the call for fast and large clipper ships for the California gold rush. East Boston was the center of the clipper ship building in Boston harbor. Donald McKay was probably the most successful of the East Boston shipwrights, having built 46 square riggers between 1845-1856 (Bunting 1971). Other important shipyards in East Boston belonged to John Brooks, William Mckie, Curtis, Jones and R.E. Jackson.

McKay's shipyard was taken over by the George McQuestion Lumber Company at the end of the 19th century (Bunting 1971: 52).

The clipper ship building was a short-lived boom which ended abruptly with the depression of 1857. However, East Boston recovered economically and a number of other operations were set up or continued in the area. For example: J.E. Simpson built the first timber drydock in the country in 1854 near the Boston and Albany Grand Junction property.

The East Boston Ferry Co. was established in 1852, and was taken under city management in 1870. The ferry operated from the ferry wharf near the Grand Junction terminal to the Boston terminal at Matthew's and Sargeant's wharf next to Lewis wharf (see Fig. 12). The People's Ferry was established in 1852, and left East Boston from its wharf at the foot of Border St. to its Boston terminal at Lincoln wharf in the North End (see Fig. 12). It fell under city management in 1869. Passenger fare to Boston via ferry was 1¢ to which the residents of East Boston objected as discriminatory. Prior to the completion of the Grand Junction terminal the ferries were also the major cargo carriers in the harbor, carrying all the ship timber to the East Boston yards.

The Atlantic works, a shipyard to build and repair steam vessels (especially the port's tugs and ferries) was established next to the Grand Junction Terminal in 1853.

In 1869, the works moved to a more spacious site on the west shore of East Boston (Bunting 1971).

Although the physical development of East Boston from Noddles and Breeds Island is enormous, the most obvious topographic change was filled for the construction of Logan airport. The western and southern shores of East Boston were built up in the mid-nineteenth century, but subsequent development consisted of minor restructuring of specific structures or small areas.

Charlestown

Twenty three dilapidated or partially dilapidated structures are located at the Charlestown waterfront. Charlestown was the location at which John Winthrop and the first settlers arrived, where they first settled before they moved to Boston, later in 1631. A ferry was established between Boston and Charlestown in 1631. The early development of Charlestown maintained pace with Boston: by 1708 there were a total of 78 wharves in Boston and Charlestown (Baker 1969).

In 1797 the federal government established a shipyard on a 43 acre mud flat in Charlestown. Charlestown, situated between the Mystic and Charles River with a deep water launching site, was a convenient location near Boston shipbuilders and related merchants (Bunting 1971). Prior to the Civil War, the Navy Yard was an active and complete complex. A superior dry dock was built between 1827-1833 of Quincy granite.

Designed by Loammi Baldwin, the dry dock is an example of notable engineering and is still in use. In addition to the dry dock, the Navy Yard contained a fine ropewalk, shiphouses, launching ways, foundries, smithers, machine shops and timber sheds and basins. The Navy Yard succumbed to the post Civil War inactivity and was not redeveloped until the early twentieth century. The ropewalk was still in use during 1897, when the USS Constitution was reconditioned (an example of the sometimes usefulness of maintaining an archaic navy facility). During 1905, a new 729' granite and concrete dry dock was constructed and in general, the yard facilities were overhauled (Bunting 1971:60).

The Navy Yard was designated a National Historic Landmark in 1966 and the Commandants Quarters is on the National Register of Historic Places. The Yard was decommissioned as a Navy facility as of July 1, 1974.

Although the Navy Yard has been a dominate presence on the Charlestown waterfront since its inception, Charlestown has supported a number of other port activities. Most notably, between 1805 through 1870 Charlestown was the center of the ice shipping trade. Frederick Tudor, the "ice king" combined two "worthless" commodities, ice and sawdust, and amassed a fortune (Morison 1921). Ice was shipped to Europe, South America, Australia and the Orient from the Charlestown wharves, between the Charlestown bridge and the Navy Yard.

The ice itself, was cut mostly from Fresh Pond, Cambridge. Besides Tudor, Charlestown was home to more than a dozen firms exporting ice in the mid-nineteenth century, notably Damon, Gage and Harris (Bunting 1971).

Charlestown was connected to Boston in 1786 by the Charles River Bridge. The idea of a bridge had been suggested as early as 1720. The total length of this original bridge was 1,503 feet and cost 15,000 pounds. The bridge was 42' wide, and a 30' draw near the center and was set upon 75 oak timber piers. The Warren bridge opened as a public highway in 1828 (Whitehill 1968).

In the late 19th century the northern face of Charlestown was developed by the construction by the Mystic River Corporation of the Boston and Lowell Railroad Quays.

The waterfront was transferred to the B & M railroad in 1887 (see Fig. 16). These Mystic River docks became the center of the export lumber trade and the receiving point for domestic and Cape Breton coal used and distributed by the railroad. In addition, during the 1890's the Little Mystic channel was the center for boats heading for the Rio Plata, Argentina in the 1890's boom. Important steamship lines docking at these quays in 1913 were the Allan line to Glasgow, the Hamburg-American freight service line from Hamburg, the Wilson line to Hull, the Holland-American line to Rotterdam, the Havana line to

Havana, the American-Indian line from Calcutta, the China-Japan line from Yokohama and the Clay line from England (see Fig. 19). Filling of Charlestown continued during the 20th century, until the little Mystic Channel developed the configuration known today.

The Hoosac terminal of the B & M railroad complemented the former sites of the great ice shipping wharves in 1875 and connected the Fitchburg with the B & M railroad. Principal exports brought by the railroads to Charlestown became livestock, provisions, grains and apples.

Boston

The waterfront of Boston proper is the location of the oldest functioning part of Boston harbor, although most of the 17th and 18th century Boston waterfront is now under later land fill. The topographic development of Boston through the twentieth century is the easiest to document, since a relatively complete series of maps of Boston proper from 1640 to the twentieth century is available.

Bonner's 1722 (Fig. 3) is the first map which gives a detailed impression of Boston. By 1722 the waterfront was already well developed. The town dock was by this time, already cut off from the harbor. Long Wharf, built in 1710 by Captain Oliver Noyes, extended King (State) Street out into the harbor and past the Barricadoes (sea wall) which had

been constructed in 1681 as a fortified breakwater. Long Wharf was lined with a continuous row of shops and warehouses. By extending into deep water, Long Wharf permitted the direct unloading of ships without the use of smaller shuttle boats. Thus, Long Wharf became the focus of the economic life of early 18th century Boston waterfront (Whitehill 1968).

Throughout the 18th century, the gradual reclamation of land by extending wharves continued. The Quincy Market area was built from 1825, filling over the original area of the town dock and building over the wharves between the dock and Long Wharf (Whitehill 1968). The rate of reclamation both north and south of Long Wharf increased in the beginning of the 19th century, as Central Wharf and India, Commercial and Lewis wharves joined Long Wharf and jutted into the harbor. The familiar modern configuration of the Boston waterfront was established in 1869 when Atlantic Avenue cut through the middle of India, Central and Long Wharves using fill from Fort Hill to the south. Atlantic Avenue was built to provide direct land access for the railways, thus tying Boston's transportation and freighting routes together (Whitehill 1968).

During the mid to late nineteenth century, whereas East Boston, Charlestown and South Boston were the locations of foreign commerce in Boston harbor, the waterfront structures of Boston proper were used by local fishermen, tow boats, excursion steamers and coastwise lines (Bunting 1971).

Rowe's Wharf was the berth for Nantasket excursion steamers, a popular and well run small steamboat line.

Foster's Wharf was the berth for the ferry to Nahant, a popular summer resort serviced by ferry since 1817. The City of Bangor service to Maine also used Foster's Wharf.

The Kennebec steamers to Maine operated from Lincoln Wharf during the summer. "T" wharf, completed in 1882, became the center of Boston's fishing industry, as most fishing vessels moved over from Commercial Wharf.

During July to September, the Boston Floating Hospital operated from the North End Park, carrying 100 permanent and 150 temporary patients daily on steamboat excursions around Boston Harbor. The Fort Hill Dry Dock at 454 Atlantic Avenue serviced small local vessels in the harbor. Coastal steamers delivered coal to the Boston Gas & Light Co., North End Works.

A few wharves carried deep water activities in contrast to other wharves in the area. Fiske Wharf served as a berth for deep water vessels carrying sugar. Battery wharf received salt from Sicily.

When Fish Pier in South Boston was completed in 1914 and the fishing industry moved to the large facility, many of the Boston wharves lost their economic support and fell into decay. The recent BRA development has stimulated the revitalization of the downtown waterfront, not as a commercial,

but as a residential center.

South Boston

Only the present southern shore of South Boston is near the location of the original shoreline; most of South Boston is land reclaimed from the original mud flats. By the end of the 18th century only about 10 families lived on "Dorchester Neck", now South Boston (Whitehill 1968:76); at high tide it was possible to row a boat over the neck.

During the early 19th century real estate speculators began to assess the feasibility of turning the mudflats into dry land, anticipating Boston expansion southward. In 1804 Dorchester Neck was annexed to Boston. Along with the annexation, the General Court authorized the construction of a toll bridge to South Boston (as the area was renamed). The South Boston bridge was opened October 1, 1805 and spanned from Boston Neck to South Boston near the present location of E. Berkeley St. where the distance was least. The bridge became a fashionable promenade due to the good view it afforded of Boston and was commonly known as the "bridge of sighs" due to the lovers who met there (Whitehill 1968:76). In addition, in 1804 a legislative package to enlarge the limits of Boston by making new land was passed.

A consortium of shore owners east of Washington Street and South of Beach Street combined forces in the "Front Street

Corporation" to create a new street parallel to Washington on the mud flats (originally called "Front Street" and renamed "Morrison" in 1841, after the president's death). The space between the street and the original shore was to be filled individually. This street was also completed in October, 1805 - adding nine acres of land and beginning the expansion of Boston Neck (Bunting 1971:72).

The Front Street Corporation met opposition from proponents of a more direct and shorter bridge access to Boston. A new bridge at the end of Federal Street was built in 1828 after two decades of arguments. The new bridge undermined the South Bridge Corporation and the South Bridge was sold at a loss in 1832 to the city (Whitehill 1968).

Reclamation of South Boston flats continued throughout the 19th century. Oyster dealers continued to use undeveloped land for storage of oysters. By mid-century another block (Albany Street) paralleled Harrison Avenue into the South Bay and 4-6 blocks had been added south of Beach Street creating a narrow channel (Ft. Point Channel) from the harbor into the South Bay (see Fig. 10). In addition, the eastern shore and northern shores of South Boston were beginning to be reclaimed. In 1868 the Boston, Hartford and Erie railroad acquired rights to a flat and within 10 years spent \$1,000,000 on improvements. By 1883, the eastern shore of South Boston conformed to the present line with one 1000' pier and one 850' extension on a previous wharf (see Fig. 13,14). However, the railroad terminal area only

fulfilled its expectations after World War I. In the 1890's "Marine Park" was built for recreation; the sewer to Moon Island built in the 80's greatly improved swimming and yachting conditions in this area.

The major amount of filling of the flats around South Boston occurred in the early 20th century. Rubble from the great fire of 1872 was used in reclamation (Bunting 1971:69). The Commonwealth built a series of piers between 1913-1914, especially Pier No. 5 which was a large steamship facility and the "Fish Pier". The Fish Pier was a 1200' facility with a huge ice and cold storage plant; fishing vessels changed from their crowded downtown location at T wharf and recentered in South Boston (see Fig. 17 & 18).

Fort Independence on Castle Island is the oldest fortified site in the Massachusetts Bay Colony. Castle Island was connected to South Boston, first by bridge in 1891 and then by causeway connected to the mainland (1910's) and then by a series of fillings.

A number of structures in South Boston are associated with important port activities.

Harrison Loring's City Point Iron Works was a well known manufactory of stationary engines, especially sugar mills, but also for steamers in the mid-19th century.

George Lawley and Sons City Point yacht yard was the shipyard in which some of the wooden defenders of the America's

Cup Race were built in the late 19th century. Notably the Puritan (1885) and the Mayflower (1886), both designed by Edward Burgess, were built there.

(Probably) the first municipal beach in the country was established at the foot of "L" Street in 1866. "L" Street is still a bathing facility.

The Boston Yacht Club, the first yacht club in the Massachusetts Bay, was established in South Boston in 1865.

Quincy

Quincy was originally part of Braintree, but maintained an autonomous status: as early as 1708 the "North Precinct" (Quincy) was set off as a separate parish; in 1792 the town of Quincy was finally established (Edwards 1957).

From the early 18th century the town restricted free use of its granite. By 1748 even residents of Braintree/Quincy had to pay for the "rocks" (Barton 1940). Transport of Quincy granite to Boston (mostly by railroad) for construction was important throughout the 19th century. Bullfinch's India wharf, Mayor Quincy's market and Dry Dock no. 1 at the Charlestown Navy Yard were constructed of this granite. However, after the great fire of 1872, use of Quincy granite diminished, since the granite weathered badly and cracked badly in the fire (Whitehill 1968).

Shipbuilding in Quincy is associated with the Fore River Shipyard established in 1883 by Thomas Watson. Originally

the yard was located in East Braintree (Monatiquot), but was moved in 1901 to a deep water site on the Quincy Fore River. The Fore River Yard was the striking exception to the general deterioration of shipping after 1875. (Bunting 1971:94) The yard received a major naval contract in 1893, the first of many. It was taken over by the Bethlehem Steel, Shipbuilding Division, Quincy Yard, which in turn was taken over by General Dynamics, Inc.

Braintree

When Weymouth and Quincy were set off from Braintree, Braintree was left with only a small section of waterfront along the Fore River, a portion of which is included in this study (Barton 1940). East Braintree was the original 1893 location of the Fore River Ship and Engine building yard (at the mouth of the Monatiquot); George Thomas also built clipper ships there in the mid-19th century.

Braintree experienced an early growth of the fishing industry, which engendered attempts to regulate the construction of mills so fish could spawn. The 18th century fishing and farming communities clashed over alewife spawning vs. grist mill construction (Barton 1940). Industrial growth in Braintree centered on the shoe industry. The initial growth was supported by good highway and railroad connections, but the industry was soon overshadowed by the great shoe centers like Haverhill and Lynn (Barton 1940).

Weymouth

Although Weymouth has a substantial shore line in Boston harbor (and in this project area) between the Fore and Back Rivers, the influence of Weymouth industries or businesses in the functioning of the port seems to be minimal as little mention has been made of the town in secondary sources. However, Bunting(1971:258) refers to some shipbuilding in the town in the late 19th century. Nevertheless, the town of Weymouth seems to be a non-industrialized waterfront residential center, which played a minimal role in port activities.

Few of the historic maps of the harbor include Weymouth's southern part of the harbor. Most of the structures designated by the corps survey in Weymouth are small wharves associated with private dwellings.

Hingham

Although Hingham went through a brief industrial growth period at the beginning of the 19th century, but mid-century industry was already declining and the town became a residential suburb(Lincoln 1893). Industries which were located near the harbor were: a copper and brass foundry on North Street, est. 1827; a flour and grain mill on the Weir River at the west foot of Weir Street, est. 1788 and changed into a woolen mill in 1810

(destroyed by fire in 1829); and a manufacturing place for masts and spars, est. 1820's (Lincoln 1893).

Shipbuilding started as early as 1637 (Thomas Turner yards) at Goose Point, and gained importance during the 18th century, with Capt. F. Barker and Son's at the foot of Ship Street established in 1750. Barker built schooners and sloops. Subsequently using the Barker yard in the early 19th century were: Curtis and Barstow, Barnes and Litchfield and Hall, and G. Basset. The Bassets also had a wharf at Cove Street. Jeremiah Stodder had a yard on Canterbury Island, up the Weir River (Lincoln 1893).

Hingham specialized in coopering, the "Hingham bucket" was an item in use all over Boston harbor. At first the wares were collected locally and shipped by small local boats to Boston for redistribution. Sale of wares was located aboard the Hingham packets docked at Long Wharf. However, by 1840 Hingham ware were sold in lots to warehouse stores. Coopering was located at the head of wharves in Hingham where mackerel was packed. The industry declined in the 1860's.

Other supportive marine businesses in Hingham included sailmaking, cordage making, and fitting of masts and spars.

Steamboat service to Hingham from Boston began at mid-century, the wharf located between Barnes Rock and Loring's (Bunting 1971).

Hull

Hull was and is a resort town in Boston harbor with a well known beach on the outer side, Nantasket beach. Excursion steamers to Hull and Nantasket operated after the Civil War (Bunting 1971). The Hull Yacht Club was founded in 1880 and within 8 years had 173 boats registered.

The first lifeboat station was established in the early 19th century by the Massachusetts Humane Society at Point Allerton. The strip from Pt. Allerton to Scituate was characterized by a high incident of shipwrecks (Smith 1917). The Life Saving Service (U.S.L.S.S.) was taken under federal auspices in 1874. Seventy-eight lifeboat and thirteen mortar stations of the U.S.L.S.S. were subsequently established around Boston harbor. In 1915 the Revenue Service (in charge of customs) merged with the U.S.L.S.S. and formed the Coast Guard (Bunting 1971). The Coast Guard still maintains a facility at Point Allerton.

2. Boston harbor Islands

Although all the Boston harbor Islands are within the project limits of this study, only the following have water-front structures recorded by the Corps: Deer, Thompson, Spectacle, Long, Moon Head, Rainsford, Gallops, Lovell, Georges, Calf, Great Brewster, Peddocks, Sheep, Bumkin and Castle. In the past, the islands in the harbor have been owned both privately and publicly, although most of them are now publicly owned. In 1970 the Massachusetts legis-

lature created the Boston Islands State Park , and with the aid of Federal funds, developed the islands into a park system offering opportunities for hiking, exploring historic fortifications, fishing, boating, swimming and camping.

The islands were inhabited seasonally by Indians before European contact. European settlement began in the 1630's. Use of the islands for defense began in the colonial period, and continued through World War I and II.

Along with being used for fortifications, the islands were used for recreation and picnicking during the 19th century. Guest houses, inns, resorts and (illegal) gambling casinos operated on some of the islands. From the 18th century the islands have been important locations for maintaining harbor facilities. The first lighthouse in the country was established on Little Brewster in 1713. In 1852 the city set up a Harbor Commission to restrict ballast digging.

During the late 19th century the private use of the islands gave way to a variety of public institutions and usages such as hospitals, reformatories, poor houses and dead horse disposal facilities.

Following are short descriptive histories of many of the islands. Most of this information is from the romanticized tales of Edward Rowe Snow (1949), as well as Connelly (1932) and Kales (1976).

Deer Island comprises 183 acres, parts of which are owned by the city, the state and the federal government. The Suffolk House of Correction is situated on the island. A signal was established there in 1819. In 1897 the island was used to quarantine Irish immigrants stricken by ship fever. This facility was made permanent in 1849. In 1852 a poorhouse was established, now part of the prison. The poorhouse became a reformatory in 1854 and the poor were sent to Rainsford Island. In 1869 a farmhouse for poor girls was built. The present Suffolk County prison was started in 1876 (Snow 1949). Fort Dawes was commissioned in 1941.

Thompson's Island, named after the first settler among the islands in the 1620's, has been the site of the Farm and Trade School of the Boston Asylum for Indigent Boys since 1819.

Spectacle Island was the quarantine station for the port of Boston from 1717 to 1737, when it was moved to Rainsford Island due to the purchase of Spectacle by Richard Bill. During the 19th century two summer hotels were set up. However, a gambling raid by Boston police in 1857 initiated the decline of the resorts. In 1892 the garbage rendering plant on Moon Island was transferred to Spectacle. Dead horses and cows were sent there to be turned into fertilizer; the obnoxious odor was the bane of Nantasket-bound 19th century steamer passengers (Bunting:1971).

Moon Head Island was the terminal for the great sewer from Boston in 1878. Sewerage was dumped into outgoing tides, which greatly improved swimming and yachting conditions in South Boston.

Rainsford Island was the site of the quarantine station from 1737 to 1849 when the State took over the island. A state poorhouse was established, but the City bought the island and the facility became a City poorhouse. After the Civil War, veterans used the facility until they were moved to the Soldiers Home in Chelsea in 1882. Between 1882-1885 the paupers were moved to Long Island and boys convicted of misdemeanors were sent to Rainsford. Thus a juvenile district, separate from the adult reformatory on Deer Island, was established. This "Suffolk School for Boys" closed in 1920 (Snow 1949).

Gallops Island was a resort during the 1830's. Boston owned the island during the 1850's and leased it to the Federal government during the Civil War. The quarantine station was moved here in 1866. By 1879 two hospital buildings were established, later changed into a Maritime training school.

Lovell's Island became the federal facility for the maintenance and repair of navigational buoys in 1874. The War Department took over the island and built Fort Standish in 1900.

Georges Island comprises 40 acres. In 1834 the Army Corps of Engineers under direction of Lt. Col. Sylvanus Thayers began construction on Fort Warren, designed to be the key to Boston harbor defense. The fort is a bastioned star fort made of Quincy granite. Although it has undergone two periods of modernization, between 1871-1876 and 1898-99, the fort remains nearly the same structurally as the mid-1800's. The MDC administers the fort and maintains a marina. Fort Warren is on the National Register of Historic Places.

Calf Island was owned privately until World War I.

Great Brewster Island has belonged to the Second Baptist Church of Boston since the early 18th century. A beacon was established in 1681.

Pedlocks Island was fortified when the U.S. government built Fort Andrews in 1897. During the early 1900's a number of resorts were active at the West End of the island.

Sheep Island was the summer place of a Weymouth family.

Bumpkin Island was willed to Harvard College in 1682. A five hundred year lease was signed by Clarence Burrage for the construction of a children's hospital in 1901. During World War I the Navy used the hospital.

Castle Island is the oldest fortified site in the Massachusetts Bay Colony. John Winthrop established a fortification there in 1634. The structure (variously called,

"The Castle", "Fort Independence", "Fort William") has gone through numerous structural additions notably in the early 1700's, 1741, 1809, 1851 and 1870-71. The island itself was connected to the mainland by a bridge in 1891, then by a causeway and finally attached to the mainland by a series of fillings. Fort Independence is on the National Register of Historic Places.

V. SURVEY RESULTS

A. Procedures

The goal of this Reconnaissance Survey is to identify sensitive areas that are likely to contain potentially significant historic structures or cultural resources within the project area and to eliminate those areas that do not have a high probability of containing significant historic properties. Since the level of research in a Reconnaissance Survey is necessarily general, it is more often possible to establish areas as being "sensitive" or "not sensitive" than to pinpoint individual structures as culturally significant. In a subsequent intensive level of investigation, the cultural significance of individual structures within designated "sensitive areas" will be examined. In addition, it is possible that further research may locate a significant structure in an area that had been eliminated as "not sensitive" in this Phase I survey. Therefore flexibility in interpreting the following limits of potentially "sensitive" areas is recommended.

The following standards have been used to establish areas in which a low probability for significant structures exists.

1. The 50 year limit established as a criteria for eligibility for inclusion to the National Register has

been applied throughout the project area. Any location of structures younger than 50 years is herein considered non-sensitive.

2. Private structures in the form of piers, wharfs and boat houses and retaining walls are considered non-sensitive because they are commonly represented in the general area and do not constitute unique or exceptional examples of this resource.

3. Structures which are listed in the Corps record sheets as in fair to good condition are not considered in this study since they will not be impacted.

4. Areas in which the "integrity" of setting, location and association has been disrupted are considered non-sensitive.

5. Structures or areas which have been highly disturbed by modern activities are considered as non-sensitive.

Areas of probable sensitivity have been established according to standards which correspond to National Register criteria of significance:

1. An area may contain potentially significant waterfront structures if it is the location in which a certain activity (or activities) which made significant contribution to the broad patterns of American history was carried out (cf. activity matrix, see fig. 2).

2. Certain structures may be potentially significant

if they are uniquely distinctive of a certain type or period of construction.

3. Areas in which the "integrity" of location, setting, feeling and association in regards to important harbor activities is preserved, may be potentially sensitive.

4. Areas or structures already on the National Register of Historic properties are considered sensitive.

5. Areas or structures that are near a known historic or prehistoric site are considered sensitive.

In the following demarcation of sensitive or non-sensitive areas, these sets of assumptions will be referred to in order to justify assessments. In addition, the activities suggested as being localized in the "sensitive" areas will be listed with reference to the activity matrix (Fig. 2).

B. Sensitive Areas and Structures

1. National Register Properties within the project area.

1. The U.S.S. Constitution, docked at the Charlestown Navy Yard.
2. Boston Light, Little Brewster Island.
3. Long Wharf and Custom House Block, foot of State Street.
4. Boston Naval Shipyard, East of Chelsea St., Charlestown.
5. Fort Warren, Georges Island.
6. Fort Independence, Castle Island.
7. Boston National Historical Park, Inner harbor at mouth of Charles River.

In 1975, a joint petition by Dr. Barbara Luedtke, University of Massachusetts, Boston and the Massachusetts Historical Commission to include Boston Harbor on the National Register was rejected by the National Park Service on the grounds that the area was too large to adequately administer as a National Register district. However, the Park Service suggested that many of the specific structures and locations within the harbor might be eligible on their own merit, and that these applications for inclusion would be considered. The following properties already included on the National Register, include or are near structures designated as

dilapidated or partially dilapidated by the Corps:

Boston Naval Shipyard

Fort Independence

Boston National Historical Park

Structures located within or near these structures must be investigated in a Phase II intensive survey to assess their potential significance within the context of nearby or adjacent National Register sites.

2. Sensitive Areas

The following list contains all the general locations in the project area which seem potentially sensitive. The justifications by which these areas were selected as sensitive are listed by "sensitivity standard" number, as itemized above in section A, "Procedures." In addition the activities and spheres of extension (cf. Fig. 2, Activity Matrix) which may have occurred in these locations are listed. For specific information on structures see Appendix II, "Cultural Resources in Impact Area."

A. Deer Island, harbor side

sensitivity standards: 1,3

activities: maintenance (local), coastal & deepwater)

recreation (local)

Town/Island Str.#/map#	Type & Condition of Structure D=dilapidated PD=partially dilapidated	Sensitive Area-letter Structure*	Comments
Deer Island 1/5	wharf D	A	Owned by U.S. Govern.
Deer Island 2/5	bulkhead D security wall	A	Owned by U.S. Govern.
Deer Island 4/5	wharf D	A	Owned by MDC "old coal pier"

These structures may be associated with the 19th century establishments of almshouses and reformatories on Deer Island. They also might be associated with earlier use of Deer Island for recreation.

B. East Boston, south and west shores

sensitivity standards: 1,2,3

activities: shipbuilding (local, coastal, deepwater)

trade (local, coastal, deepwater)

transportation (local, coastal, deepwater)

marine businesses (local)

Town/Island Str.#/Map #	Type of Structure & Condition of Structure D=dilapidated PD=partially dilapidated	Sensitive Area-letter Structure *	Comments
East Boston 28/4	wharf PD	B	Formerly Navy fuel pier, now mooring, "Old Navy Fuel Pier"
East Boston 32/4	wharf PD	B	Bethlehem Steel Co. pier 3
East Boston 37/3	wharf D	B	owned by Port of Boston Comm. May be used for part of grand junction term.
East Boston 41/3	ferry slip D	B	probably slip for East Boston ferry
East Boston 42/3	wharf D	B	national dock & storage ware-house-photos show railway probable connection with freight handling
East Boston 43/3	wharf D	B	Boston "1800" restaurant & antique shops
East Boston 44/3	wharf D	B	
East Boston 45/3	wharf D	B	next to Hodge Boiler Works

Town/Island Str.#/map #		Type of Structure & Condition of Structure D=dilapidated PD=partially dilapidated		Sensitive Area-letter Structure *	Comments
East Boston	46/3	wharf	D	B	Hodge Boiler Works, So. Pier
East Boston	47/3	wharf	D	B	Hodge Boiler Works, N. Pier
East Boston	48/3	wharf	D	B	Old Lockwood Basin Pier
East Boston	49/3	wharf	D	B	owned by Mass. Turn- Pike Authority, possible People's Ferry wharf
East Boston	50/3	wharf	D	B	Boston Marine Works Pier
East Boston	51/3	wharf	D	B	Boston Marine Works Pier
East Boston	52/3	wharf	D	B	Woods Hole Ocean- ography Pier
East Boston	53/3	wharf	D	B	possible Aspinwall's wharf
East Boston	54/3	wharf	D	B	possibly Kolmes' & Snellings'
East Boston	55/3	wharf	D	B	railways obvious from photo
East Boston	56/3	wharf	D	B	Pickert Pier
East Boston	61/1	wharf	D	B	Global Bulk Trans- port Inc.
East Boston	62/1	wharf	D	B	Global Bulk Trans- port Inc.
East Boston	63/1	dry docks	D	B	Global Bulk Trans- port Inc. dry dock next to site of Hall's Shipyard
East Boston	64/1	wharf	D	B	Global Bulk carriers
East Boston	65/1	wharf	D	B	owner: Global bulk Carriers

Town/Island Str.#/map #	Type of Structure & Condition of Structure		Sensitive Area-letter Structure *	Comments
East Boston 66/1	wharf	D	B	possible site of Hall's Shipyard
East Boston 67/1	wharf	D	B	possible site of Hall's Shipyard
East Boston 68/1	wharf	D	B	
East Boston 69/1	wharf	D	B	Suffolk Coal Pier
East Boston 70/1	wharf	D	B	
East Boston 71/1	wharf	PD	B	City Fuel Co., South Pier
East Boston 73/1	wharf	PD	B	City Fuel Co., lighter Pier
East Boston 74/1	wharf	PD	B	Acme Pier
East Boston 76/1	wharf	PD	B	General ship & engine works; plan of structure 1939
East Boston 79/1	wharf	D	B	possibly Geo. McQuesten lumber yard
East Boston 80/1	wharf	D	B	Geo. McQuesten lumber co. long pier, possibly previous site of D. McKay's shipyard
East Boston 81/1	wharf	D	B	Geo. McQuesten Co. lumber yd. possibly previous site of D. McKay shipyard
East Boston 82/1	wharf	D	B	John Forward Wharf

Some of these structures may be associated with 19th century shipbuilding in East Boston. Others may be wharves from which the two East Boston ferries ran during the 17th to early 20th century. Many wharves probably have been the location of a vast array of marine business such as lumber yards and chandleries. Other wharves were undoubtedly involved in both coastal and deepwater trade.

C. Chelsea Creek and Chelsea front

sensitivity standards: 1,3

activities: shipbuilding (deepwater)

Town/Island Str.#/map #		Type of Structure & Condition of Structure		Sensitive Area-letter Structure *	Comments
Chelsea	114/1	bulkhead	PD	C	Samuel Cabot Co. possible ship- building site
Chelsea	115/1	wharf	D	C	possible ship- building site
Chelsea	116/1	Marine RR	D	C	possible ship- building site Harbor Transmiss. Co.
Chelsea	117/1	wharf	D	C	possible ship- building site
Chelsea	118/1	wharf	D	C	possible ship- building site
Chelsea	119/1	marine railway	D	C	possible ship- building site
Chelsea	120/1	wharf	D	C	possible ship- building site
Chelsea	121/1	wharf	PD	C	possible ship- building site
Chelsea	122/1	wharf	D	C	possible ship- building site
Chelsea	123/1	marine railway	D	C	possible ship- building site
Chelsea	124/1	wharf	D	C	possible ship- building site
Chelsea	125/1	wharf	PD	C	Seaboard Constr. Co. possibly used for lumber
Chelsea	126/1	wharf	D	C	AA Hersey & Son, pier

These wharves are possibly the remainder of an active
19th century shipbuilding site on the Chelsea waterfront.

D. Chelsea, main ship channel

sensitivity standards: 1,3

activities: shipbuilding (deepwater)

transportation (local)

Town/Island Str.#/map #	Type of Structure & Condition of Structure	Sensitive Area-letter Structure *	Comments
Chelsea 139/1	Marine RR. D	D	Dry Dock, Boston Dry Dock Co.
Chelsea 141/1	wharf PD	D	Pier #5 Munro, ship repair
Chelsea 142/1	wharf D	D	Pier #6 Munro, ship repair
Chelsea 143/1	wharf PD	D	Metropolitan Oil Co.

These waterfront structures may be associated with 19th century shipbuilding. Also, the slip for the Chelsea ferry was located in this area, and one of these structures might be associated with the ferry.

E. Charlestown shoreline

sensitivity standards: 1,2,3,4

activities: maintenance (coastal, deepwater)

shipbuilding (local, coastal, deepwater)

marine businesses (local, deepwater)

trade (local,coastal, deepwater)

Town/Island Str.#/map#	Type of Structure & Condition of Structure	Sensitive Area-letter Structure *		Comments
Charlestown 171/1	wharf	PD	E	U.S. Gypsum Co. (Mystic Docks)
Charlestown 172/1	bridge fender	D	E	Chelsea Bridge 1803(cf. 145)
Charlestown 173/1	wharf	D	E	Fornier Marine previously Mystic Pier n.50
Boston 175/1	bridge fender	D	E	1803 Chelsea Bridge (cf. 145,172)
Charlestown 176/1	bridge fender fender	D	E	probably part of 1803 Chelsea Brid.
Charlestown 177/1	old bridge fender	D	E	possibly part of 1803 Chelsea Brid.
Charlestown 181/1	wharf	PD	E	Boston Navy Ship- yard
Charlestown 190/3	wharf	PD	E	Pier No. 3 Boston Navy Yard
Charlestown 194/3	wharf	PD	E	Boston Navy Yd., Pier No. 1
Charlestown 196/3	wharf	PD	E	Hoosac pier #1, previous site of ice export wharfs
Charlestown 197/3	wharf	PD	E	Grand Rapids furniture whse. previous site of ice export wharfs
Charlestown 198/3	wharf	D	E	possible location of Tudor's wharf

Charlestown 199/3	bridge fender system	D	E	location of 1786 Charlestown Bridge.
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Some of these structures are in the Boston Navy Shipyard, a National Register site. Others may be associated with deep-water trade ventures such as exporting lumber and ice and importing products from Rio Plata. Some structures may be the remains of early bridges linking Charlestown to Chelsea.

F. Boston, Charles River front

sensitivity standards: 1,3,4

activities: maintenance (local)

fish (local)

trade (local, coastal)

transportation (local)

marine businesses (local, coastal)

Town/Island Str.#/map #	Type of Structure & Condition of Structure	Sensitive Area-letter Structure *	Comments
Boston 207/3	wharf D	F	now 1-2-3 car wash
Boston 208/3	wharf PD	F	U.S.E.D. Wharf
Boston 209/3	wharf PD	F	police dept.
Boston 210/3	wharf D	F	possibly North End Park
Boston 213/3	wharf PD	F	U.S. Coast Guard pier 3 previous location of Constitution wharf

These structures may be concerned with the commercial center of the historic Boston waterfront. Fishing and local trading activities were important from the 17th century Boston waterfront to the present day.

G. Boston, Fort Point Channel

sensitivity standards: 1,3

activities: maintenance (local)

fishing (local)

trade (local)

transportation (local, coastal)

marine businesses (local)

recreation (local)

Town/Island Str.#/map #		Type of Structure & Condition of Structure		Sensitive Area-letter Structure *		Comments
Boston	214/3	wharf	PD	G		U.S. Appraiser stones wharf-possible location-Otis wharf
Boston	216/3	wharf	D	G		previously City of Boston dumping wharf
Boston	217/3	wharf	D	G		Harbor bldg. near Sheraton
Boston	218/3	wharf	PD	G		Atlantic Park Corp.

Although much land disturbance occurred in the Fort Point Channel in the early 20th century (see Fig. 20), the waterfront in this area was historically very active. These structures may be associated with some of the activities listed above.

H. South Boston, Fort Point Channel

sensitivity standards: 1,3

activities: trade (local, coastal, deepwater)

transportation (local)

Town/Island Str.#/Map #	Type of Structure & Condition of Structure	Sensitive Area-letter Structure *	Comments
Boston	231/3 wharf	PD H	
Boston	232/3 bridge fender Northern Av.	PD H	
Boston	233/3 wharf	PD H	Pier #1 New Haven fan house yard
So Boston	234/3 wharf	PD H	"old pier #2"

The structures might be associated with one or both of the early 19th century bridges connecting Dorchester Neck with Boston proper. They also might be related to the late 19th century relocation making South Boston the center of major trade activity in Boston.

I. Castle Island

sensitivity standards: 1,3,4

activities: maintenace (local, deepwater)

recreation (local)

Town/Island Str. #/map#	Type & Condition of Structure	Sensitive Area- letter Structure *		Comments
Boston 267/6	fireboat slip	PD	I	U.S. Coast Guard
So Boston 269/6	wharf	D	I	

Fort Independence, on Castle Island, is a National Register site; these structures may relate to the historical significance of the site. They also might relate to use of the Castle Island area for recreation.

J. South Boston, marine park to "L" street

sensitivity standards: 1,2,3

activities: recreation (local)

Town/Island Str.#/map#	Type & Condition of Structure	Sensitive Area- letter Structure *	Comments
So Boston 272/6	wharf	PD J	Columbia Yacht Club

The South Bpston waterfront was one of the first areas in the country to be organized for public recreation. This wharf may have historical signficance for the activities of one of the earliest yachting clubs in the Boston Bay area.

K. Quincy, Fore River

sensitivity standards: 1,3

activities: shipbuilding (deepwater)

Town/Island Str. #/map #	Type of Structure & Condition of Structure	Sensitive Area-letter Structure *	Comments
Quincy 330/18	marine railway	D K	possible original area of Fore River Ship & Engine Co.
Quincy 331/18	marine railway	D K	
Quincy 332/18	marine railway and cradle	D K	
Quincy 336/18	bulkhead	D K	
Braintree 341/18	temporary wharf	D K	
Braintree 342/18	bulkhead	D K	

These structures may be part of the original Fore River Shipyard, a shipbuilding yard which succeeded in contrast to the general deterioration of other yards in the harbor during the late 19th and earlier 20th centuries.

3. Sensitive Structures

A. In addition, the structures on the following list have been designated as potentially significant. The sensitivity standards and relevant activities for each of the individual structures are listed below.

Town/Island Str.#/map#	Type & Condition of Structure	Sensitive Area- Letter Structure *		Comments
Winthrop 17/2	RR Bridge	PD	*	Fits in local transportation activity matrix slot
East Boston 91/1	wharf	D	*	Old Boston Ice Co. Former use, ammonia line transport
Chelsea 130/1	wharf	PD	*	Eastern Minerals Inc. pier previously light-house depot, upper wharf
Chelsea 131/1	bulkhead	D	*	Eastern Minerals Wharf, Old Coast Guard Wharf, previous lighthouse depot, lower wharf.
Chelsea 145/1	bridge	D	*	Chelsea Bridge 1803
So Boston 238/3	wharf	PD	*	Boston fish pier finished 1914
Boston (Long Island) 300/7	wharf	PD	*	
Boston Long Island 301/7	wharf	D	*	½ mil. from hospital
Boston Moon Head 302/11	wharf	D	*	

Quincy 309/15	wharf & dry dock	D	*	Quincy Adams yacht yard est. 1903. In 1950's got Navy contract to make destroyers.
Quincy 313/18	wharf	D	*	Duane Wrecking Co. near prehistoric site (cf. MHC files)
Weymouth 384/19	granite quay & fender piles	D	*	Old Bethlehem ship- yard
Hingham 444/20	bulkhead	PD	*	
Hingham 445/20	boat yard	PD	*	
Hingham 448/20	cat walk	D	*	unique transport facility
Hull 461/17	wharf/quay	D	*	excursion ferry dock & facility at Nantasket.
Hull 512/12	wharf	D	*	excursion ferry ticket & loading office
Hull-Peddocks 1/12	wharf	PD	*	
Hingham-Bumpkin 1/16	wharf	D	*	possibly associated with 1900 Hospital
Boston-Rainsford 1/12	wharf	D	*	
Boston-Rainsford 2/12	wharf	D	*	
Boston-Spectacle 1/7	wharf	D	*	
Boston-Spectacle 2/7	wharf	D	*	
Boston-Spectacle 3/7	wharf	D	*	

Boston-Spectacle 4/7	wharf	D	*	
Boston-Thompson 3/6	wharf	D	*	
Boston-Thompson 4/10	retaining wall	D	*	this structure is near a known pre- historic site (cf. MHC files)
Boston-Thompson 5/6	pilings	D	*	

B. Sensitive Structures: Sensitivity Standards and Activities

Structure 17, Winthrop

sensitivity standards: 1,2,3

activities: transportation (local)

Structure 91, East Boston

sensitivity standards: 1,2,3

activities: transportation (local, coastal, deepwater)

shipbuilding (local, coastal, deepwater)

Structures 130, 131, Chelsea

sensitivity standards: 1,2,3

activities: maintenance (local, coastal)

Structures 145, 172, 175, 176, Chelsea and Charlestown

sensitivity standards: 1,2,3

activities: transportation (local)

Structure 238, South Boston

sensitivity standards: 1,2,3

activities: fishing (local, coastal, deepwater)

trade (local, coastal)

Structures 300, 301, Long Island

sensitivity standards: 1,3

activities: maintenance (local, coastal, deepwater)

recreation (local)

Structure 309, Quincy

sensitivity standards: 1,3

activities: shipbuilding (deepwater)

Structure 313, Quincy

sensitivity standards: 5

activities: n.a.

Structure 384, Weymouth

sensitivity standards: 1,2,3

activities: shipbuilding (coastal, deepwater)

Structures 444,445, Hingham

sensitivity standards: 1,3

activities: maintenance (local)

marine businesses (local)

Structure 448, Hingham

sensitivity standards: 1,2,3

activities: transportation (local)

Structure 461, Hull

sensitivity standards: 1,2,3

activities: transportation (local)

recreation(local)

Structure 512, Hull

sensitivity standards: 1,2,3

activities: transportation (local)

recreation (local)

Peddocks Island #1

sensitivity standards: 1,3

activities: maintenance (local,coastal,deepwater)

recreation (local)

Bumpkin Island #1

sensitivity standards: 1,3

activities: recreation (local)

Rainsford Island #1,2

sensitivity standards: 1,3

activities: maintenance (local,coastal,deepwater)

recreation (local)

Spectacle Island, # 1,2,3,4

sensitivity standards: 1,3

activities: maintenance (local,coastal, deepwater)

recreation (local)

Thompson Island,# 3,4,5

sensitivity standards: 1,3,5

activities: maintenance (local, coastal, deepwater)

recreation (local)

- C. Shorefront dumps: Only five shorefront dumps are listed as possible sources of flutable debris. These are all located in Boston: one on Thompson's Island, one on George's Island and three in East Boston.

The data provided by the Corps relating to shorefront dumps is sparse. Depth of deposits is not approximated.

Photos are usually not helpful in trying to determine dates of artifacts. Field examination of the following two (2) dumps is recommended to evaluate the presence (if any) of significant cultural materials:

Thompson Island D-1

Georges Island D-1

The following dumps:

East Boston 1,2, and 3

appear to contain 20th century materials (e.g., concrete slabs, etc.) are not recommended for further examination.

Loose on shore debris

On-shore debris by its very nature will be so disturbed by tides and currents that its historical association and integrity will be lost. In most cases the debris is on shore due to vagaries of harbor and currents depositing the material and not to historical processes. In addition, the vast majority of such materials are very modern in origin and represent a category of data that is abundantly present in many other dumping or disposal situations. Therefore, sources of loose on-shore debris do not represent potentially significantly cultural resources.

D. Non-Sensitive Areas

Structures not within areas A-K on the map in Fig. 21 and structures not indicated as possibly significant in section V B of this report are considered non-sensitive. For specific information on particular structures see Appendix II. However, as stated above in V, A . future intensive survey may uncover new background information indicating a potentially significant structure may exist in an area designated as non-sensitive on the basis of this Reconnaissance Survey. Flexibility in drawing the scope of work for Phase II is strongly urged.

VI. Summary and Recommendations for Intensive Investigations

An assessment of the potential historic significance of particular locations with the study area has been completed with the following results:

1. Eleven potentially sensitive locations are indicated.
2. Thirty additional isolated structures are indicated as potentially sensitive.

Therefore 118 structures out of the original 274 structures designated as dilapidated or partially dilapidated are recommended to be studied in Phase II/intensive survey. Out of the five shorefront dumps, two are recommended for further investigation. The 162 sources of loose on shore debris are considered not sensitive and are not recommended for further study.

The Phase II or intensive level of cultural resource investigations should target directly on the structures or areas indicated as potentially sensitive. For this level of investigation, ^{literature}research will still be the major component, in relationship to field work, with the possible exception of the two island dumps. It is often very difficult to determine whether a configuration of dilapidated pilings dates from Donald McKay's clipper ship wharf of a century ago, or a lumber pier of the 1930's,

to pick an obvious hypothetical example. Specialized engineering studies on wharf technology and engineering might have to be consulted.

As a general rule, however, the intensive or Phase II research should move from the level of secondary sources and harbor area atlases or maps, to local histories and directories, insurance maps, local tax records and surveyed plans, and selected archival sources and probate records, for those sensitive areas or specific structures. The researcher should then be able to identify with some certainty the surviving or extant structure(s) with a specific period of historical development on that location.

It is anticipated that a researcher at this stage should be prepared for some fairly creative mitigation options for structures that will be recommended as significant cultural resources according to National Register criteria. For example, it may be quite appropriate to recommend the rehabilitation of an historic ferry terminal on Nantasket which involves driving new supportive piles, while it would be inappropriate to even recommend the stabilization of a handful of pilings which might probably be survivals of McKay's shipyard in East Boston. As appropriate in the latter case might be recommendations to: (1) move the McKay monument from Castle Island to the

original site in East Boston; (2) build a new monument on the original site; (3) name the new housing project after McKay, and streets or squares after his vessels. (4) reconstruct the shipyard on paper including architectural drawings, photographs (both historic and modern) and plans. Given the severe environmental conditions to which the majority of dilapidated shorefront structures have been, and will continue to be exposed, recommendations for preservation in situ will be especially difficult to defend.

On the basis of the Public Archaeology Laboratory's experience with the existing study area and comparable investigations conducted by its personnel at the Salem Maritime National Historic Site and Castle Island, an intensive survey of the sensitive areas/structures/dumps should require about four to five man-months research and field effort. If the sensitive areas had been all located in one community rather than several, the proposed time/effort period would have been reduced to about 2½ months to 3 months time. However, the logistics involved in a study area embracing twelve communities, with structures numbering in the hundreds, has proved to be both formidable and time consuming at the reconnaissance survey level. Research will continue to be difficult, since local collections, repositories, and public records will have to be investigated in each community containing potentially significant cultural resources.

A budget for intensive investigations might reasonably project about \$12 - \$15,000, out of which \$8 - \$10,000 would represent direct costs in the form of salaries, materials, and other expenses.

The Public Archaeology Laboratory at Brown University requests the opportunity of remaining informed about future policy or management decisions which are based on the results of this survey.

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C. INSTITUTIONS

Boston Public Library
Boston Public Library (Rare Book Room)
Boston Public Library (Government Documents)
Massachusetts State Library
Massachusetts State Archives
Massachusetts Historical Commission
Massachusetts Historical Society
Boston University, Mugar Library
Harvard University, Widener Library
Metropolitan District Commission
Bethlehem Steel Shipyard

D. PERSONS CONSULTED

Dr. Barbara Luedtke, University of Massachusetts, Boston.
Captain Albert Swanson, Metropolitan District Commission
John Wilson, Massachusetts Division of Water Pollution Control

E. HISTORICAL COMMISSIONS

Massachusetts Historical Commission
(Frank McManamon, Staff Archaeologist)
Quincy Historical Commission
(Lars Lundin, Chairman)
Weymouth Historical Commission
(Charles Kevitt, Chairman)
Hingham Historical Commission
(James Wheaton, Chairman)
Hull Historical Commission
(Helen Raymond, Chairman)

APPENDIX I

ERRORS IN CORPS RECORD SHEETS & MAPS

The following structures were described as dilapidated on the Corps record sheets, but were listed as good on the maps:

153,183,177,259,370,479,481,492,495

The following structures were described as dilapidated on the Corps record sheets, but were listed as partially dilapidated on the maps:

269,461

The following structures were described as fair/good on the record sheets, but were listed as dilapidated on the maps:

58,59,263,403,404,431,461,494, 1-Gallops Island

The following structures were described as fair/good on the record sheets, but were listed as partially dilapidated on the maps:

78,106,108,109,110,125,193,146,163,469

In addition, 68 is unclear whether dilapidated, partially dilapidated or fair.

Duplicate numbers: 10,13, 213

Missing record sheets: 282,283,374

Structures not on map: 2 Lovell Is.
5 Thompson Island

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
23	4	Ea Boston Logan	Airplane guide	D		Approach pier light
28	4	East Boston	wharf	PD	B	formerly Navy fuel pier, now mooring, "Old Navy Fuel Pier"
32	4	East Boston	wharf	PD	B	Bethlehem Steel Co. pier 3
37	3	East Boston	wharf	D	B	owned by Port of Boston Comm. may be used for part of grand junction terminal
41	3	East Boston	ferry slip	D	B	probably slip for East Boston Ferry
42	3	East Boston	wharf	D	B	nat'l dock and storage warehouse photographs show railway probable connection with freight handling
43	3	East Boston	wharf	D	B	Boston "1800" restaurant and antique shops
44	3	East Boston	wharf	D	B	
45	3	East Boston	wharf	D	B	next to Hodge Boiler Works

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
1	5	Deer Island	wharf	D	A	Owned by U.S. Govt.
2	5	Deer Island	bulkhead security wall	D	A	Owned by U.S. Govt.
4	5	Deer Island	wharf	D	A	Owned by MDC "old coal pier"
5	5	Winthrop	wharf	D		Old boat pier
6	5	Winthrop	wharf	D		
7	5	Winthrop	wharf	D		Old yacht club pier
10	4	Winthrop	bulkhead	D		
12	2	Winthrop	wharf	PD		Coast Marine, Inc.
13	2	Winthrop	wharf, mooring	PD		
14	2	Winthrop	wharf, mooring	D		
17	2	Winthrop	RR bridge	PD	*	fits in local transportation activity matrix slot "old narrow gauge railroad"

APPENDIX II

Cultural Resources in Impact Area

Str. #	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
46	3	East Boston	wharf	D	B	Hodge Boiler Works, So. Pier
47	3	East Boston	wharf	D	B	Hodge Boiler Works, N. Pier
48	3	East Boston	wharf	D	B	Old Lockwood Basin Pier
49	3	East Boston	wharf	D	B	owned by Mass. Turnpike Authority, possible People's Ferry wharf
50	3	East Boston	wharf	D	B	Boston Marine Works Pier
51	3	East Boston	wharf	D	B	Boston Marine Works Pier
52	3	East Boston	wharf	D	B	Woods Hole Oceanography Pier
53	3	East Boston	wharf	D	B	possible Aspinwalls's wharf
54	3	East Boston	wharf	D	B	possibly Kolmes' & Snellings'
55	3	East Boston	wharf	D	B	railways obvious from photo
56	3	East Boston	wharf	D	B	Pickert Pier
61	1	East Boston	wharf	D	B	Global Bulk Transport Inc.

APPENDIX II

Cultural Resources in Impact Area

Str. #	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure #	Comments
62	1	East Boston	wharf	D	B	Global Bulk Transport Inc.
63	1	East Boston	dry docks	D	B	Global Bulk Transport Inc. dry dock next to site of Hall's Shipyard
64	1	East Boston	wharf	D	B	Global Bulk carriers
65	1	East Boston	wharf	D	B	owner: Global Bulk Carriers..
66	1	East Boston	wharf	D	B	possible site of Hall's Shipyard
67	1	East Boston	wharf	D	B	possible site of Hall's Shipyard
68	1	East Boston	wharf	D	B	
69	1	East Boston	wharf	D	B	Suffolk Coal Pier
70	1	East Boston	wharf	D	B	
71	1	East Boston	wharf	PD	B	City Fuel Co., South Pier
73	1	East Boston	wharf	PD	B	City Fuel Co., lighter Pier

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
74	1	East Boston	wharf	PD	B	Acme Pier
76	1	East Boston	wharf	PD	B	General ship & engine works; plan of structure 1939
79	1	East Boston	wharf	D	B	possibly Geo. McQuesten lumber yard
80	1	East Boston	wharf	D	B	Geo. McQuesten lumber Co. long pier possibly previous site of McKay's shipyard
81	1	East Boston	wharf	D	B	Geo. McQuesten Co. lumber yd. possibly previous site of D.McKay's shipyard
82	1	East Boston	wharf	D	B	John Forward Wharf
85	1	East Boston	wharf	D		"Gibby Foundry Pier" for shipping iron
86	1	East Boston	wharf	D		
87	1	East Boston	wharf	D		
89	1	East Boston	wharf	D		Boston Sand and Gravel

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=Dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
90	1	East Boston	wharf	D		
91	1	East Boston	wharf	D	*	Old Boston Ice Co. Former use, ammonia line transport
95	2	East Boston	wharf	D		Old Navy Pier
100	2	Revere	piles/building	D		1927 - Gen. Ceramic Mfg.
101	2	Revere	wharf	D		Proctor Wharf
102	2	Revere	wharf	D		Mass Elect. Co., coal pier
104	2	Chelsea	wharf	D		N.E. Petrol Co.
113	1	Chelsea	wharf	PD		Jenney mfg, Citgo
114	1	Chelsea	bulkhead	PD	C	Samuel Cabot Co. possible shipbuilding site
115	1	Chelsea	wharf	D	C	possible shipbuilding site
116	1	Chelsea	Marine RR	D	C	Possible shipbuilding site Harbor transmiss Co.

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=Dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
117	1	Chelsea	wharf	D	C	possible ship building site
118	1	Chelsea	wharf	D	C	possible ship building pier
119	1	Chelsea	marine railway	D	C	possible ship building pier
120	1	Chelsea	wharf	D	C	possible ship building site
121	1	Chelsea	wharf	PD	C	possible ship building site
122	1	Chelsea	wharf	D	C	possible ship building site
123	1	Chelsea	marine railway	D	C	possible ship building site
124	1	Chelsea	wharf	D	C	possible ship building site
125	1	Chelsea	wharf	PD	C	Seaboard Construction Co. possibly used for lumber
126	1	Chelsea	wharf	D	C	AA Hersey & Son, pier
128	1	Chelsea	wharf	D		Old Coal pier
130	1	Chelsea	wharf	PD	*	Eastern Minerals, Inc. pier previously, light-house depot upper wharf
131	1	Chelsea	bulkhead	D	*	Eastern Minerals Wharf Old Coast Guard Wharf previously light-house depot lower wharf

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D-dilap PD-part dilap	Sensitive Area-letter Structure *	Comments
139	1	Chelsea	Marine RR.	D	D	Dry Dock, Boston Dry Dock Co.
141	1	Chelsea	wharf	PD	D	Pier #5 Munro, ship repair
142	1	Chelsea	wharf	D	D	Pier #6, Monro, ship repair
143	1	Chelsea	wharf	PD	D	Metropolitan Oil Co.
145	1	Chelsea	bridge	D	*	Chelsea Bridge 1803
146	1	Chelsea	wharf	PD		U.S. Naval Hosp.
148	1	Everett	wharf	D		Eastern Gas Coal
149	1	Everett	wharf	D		Eastern Gas & Fuel Assoc. Coal Wharf
153	1	Charlestown	wharf	D		MDC Charlestown Pumping Station
155	1	Everett	wharf	PD		Monsanto Chem. Co.
158	1	Somerville	wharf	D		Penn Oil, Perini Co.
159	1	Charlestown	wharf	D		unloading sand
160	1	Charlestown	bulkhead	PD		probably built in 20th century filling along Mystic River Charlestown front

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
162	1	Charlestown	wharf	PD		Revere Sugar Refinery
164	1	Charlestown	wharf	PD		
165	1	Charlestown	wharf	D		Old Wiggin-McCormick Lumber Co. Pier
166	1	Charlestown	bulkhead	PD		Wiggin-McCormick Hardware Co.
167	1	Charlestown	wharf	PD		Atlantic Cement Co. previous New Eng. Coal & Coke Co. wharf
168	1	Charlestown	wharf	D		Wiggin Terminals Inc.
171	1	Charlestown	wharf	PD	E	U.S. Gypsum Co. (Mystic Docks)
172	1	Charlestown	bridge fender	D	E	Chelsea Bridge 1803(cf.145)
173	1	Charlestown	wharf	D	E	Fornier Marine previously Mystic Pier n.50
175	1	Boston	bridge fender	D	E	1803 Chelsea Bridge (cf. 145, 172)
176	1	Charlestown	bridge fender	D	E	probably part of 1803 Chelsea bridge
177	1	Charlestown	old bridge fender	D	E	possibly part of 1803 Chelsea Bridge

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-Letter Structure *	Comments
181	1	Charlestown	wharf	PD	E	Boston Navy Shipyard
190	3	Charlestown	wharf	PD	E	Pier No. 3 Boston Navy Yard
194	3	Charlestown	wharf	PD	E	Boston Navy Yd., Pier No.1
196	3	Charlestown	wharf	PD	E	Hoosac pier #1, previous site of ice export wharfs
197	3	Charlestown	wharf	PD	E	Grand Rapids furniture whse. previous site of ice export wharfs
198	3	Charlestown	wharf	D	E	possible location of Tudor's wharf
199	3	Charlestown	bridge fender system	D	E	location of 1786 Charlestown Bridge
200	3	Charlestown	bridge fender system	D		
201	3	Cambridge	wharf	D		Boston Sand & Gravel
202	3	Charlestown	bridge fender	PD		B & M RR

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
264	6	Boston	wharf	PD		
265	6	Boston	wharf	PD		
267	6	Boston	fire boat slip	PD	I	U.S. Coast Guard
269	6	So Boston	wharf	D	I	
272	6	So Boston	wharf	PD	J	Columbia Yacht Club
278	10	Boston	yacht club	PD		Savin Hill
281	10	Boston	wharf	D		
285	10	Boston	wharf	D		
286	10	Boston	wharf	D		
288	10	Boston	wharf	D		New Eng. Marina, Inc.
289	10	Boston	wharf	D		Harbor Lights Restaurant
290	10	Dorchester	wharf	D		
292	10	Boston	wharf	D		

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
243	4	Boston	wharf	D		pier #3, U.S. Navy
244	4	Boston	wharf	D		pier #2, Navy Annex
245	4	Boston	wharf	D		pier #1
248	4	Boston	wharf	PD		pier #10
250	6	Boston	bridge fender	PD		"L" St.
251	6	Boston	wharf	D		Mahoney's wharf
252	6	Boston	wharf	D		old Navy wharf
253	6	Boston	bulkhead	D		
254	6	Boston	bulkhead	D		
258	6	Boston	wharf	D		MBTA
259	6	Boston	wharf	D		
260	6	Boston	bulkhead	PD		
261	6	Boston	wharf	D		
262	6	Boston	wharf	PD		white fuel (Texaco)

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
227	3	Boston	wharf	D		
228	3	So Boston	wharf	D		
229	3	Boston	bulkhead	D		
230	3	Boston	bldg walkway	D		
231	3	Boston	wharf	PD	H	
232	3	Boston	bridge fender Northern Ave.	PD	H	
233	3	Boston	wharf	PD	H	Pier #1 New Haven fan house yard
234	3	So Boston	wharf	PD	H	"old pier #2"
236	3	So Boston	bulkhead	PD		Paul's Lobster Co.
238	3	So Boston	wharf	PD	*	Boston fish pier finished 1914
240	3	Boston	wharf	D		pier #7 Boston Naval shipyd
242	4	Boston	wharf	D		Pier #4

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure*	Comments
217	3	Boston	wharf	D	G	Harbor bldg.near Sheraton
218	3	Boston	wharf	PD	G	Atlantic Park Corporation
219	3	Boston	bridge fender system Congress St.	PD		Russian wharf sacrifice to Congress St. bridge in late 19th century
220	3	Boston	bridge fender Summer St.	D		
221	3	Boston	wharf	D		possibly bridge fender for Washington St. (cf.226)
222	3	Boston	fender system Dorchester Ave	PD		
223	3	Boston	bridge fender B & A RR.	D		
224	3	Boston	fender system Broadway bridge	D		
225	3	Boston	wharf	PD		
226	3	So Boston	wharf	D		possibly part of Washington St bridge fender.

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
203	3	Boston	RR bridge	PD		B & M RR.
204	3	Cambridge	wharf	D		
205	3	Boston	wharf	PD		MBTA
206	3	Boston	wharf	PD		Chas. R. Warehouse wharf
207	3	Boston	wharf	D	F	now 1-2-3 car wash
208	3	Boston	wharf	PD	F	U.S.E.D. Wharf
209	3	Boston	wharf	PD	F	police dept.
210	3	Boston	wharf	D	F	possibly North End Park
213	3	Boston	wharf	PD	F	U.S. Coast Guard pier 3 previous location of Constitution wharf
214	3	Boston	wharf	PD	G	U.S. Appraiser stones wharf possible location-Otis Wharf
216	3	Boston	wharf	D	G	previously City of Boston dumping wharf

APPENDIX II

Cultural Resources in Impact Area

Str. #	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure*	Comments
293	10	Boston	wharf	D		
294	10	Boston	wharf	PD		
296	10	Quincy	bulkhead	D		Old U.S. Naval Air
297	10	Quincy	wharf	D		
299	11	Quincy	wharf	D		
300	7	Boston (Long Island)	wharf	PD	*	
301	7	Boston Lg Isl	wharf	D	*	½ mi. from hospital
302	11	Boston Moon Head	wharf	D	*	
309	15	Quincy	wharf & dry dock	D	*	Quincy Adams yacht yard est 1903 In 50's got Navy contract to make destroyers
312	15	Quincy	bridge	D		
313	18	Quincy	wharf	D	*	Duane Wrecking Co. near prehistoric site (cf. MHC files)
315	18	Quincy	wharf	D		Quincy Oil Co., plant #4

APPENDIX II

Cultural Resources in Impact Area

Str.#	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
317	18	Quincy	wharf	D		Quincy Oil Co.
319	18	Quincy	wharf	D		Old Lincoln Oil Co.
322	18	Quincy	wharf	D		
327	18	Quincy	bulkhead	D		
329	18	Quincy	bulkhead	D		
330	18	Quincy	marine railway	D	K	possible original area of Fore River Ship & Engine Co.
331	18	Quincy	marine railway	D	K	
332	18	Quincy	marine railway and cradle	D	K	
336	18	Quincy	bulkhead	D	K	
341	18	Braintree	temporary wharf	D	K	
342	18	Braintree	bulkhead	D	K	
346	18	Weymouth	piles	D		
359	18	Weymouth	piles	D		

APPENDIX II

Cultural Resources in Impact Area

Str. #	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure*	Comments
361	18	Weymouth	boat storage and repair	PD		N. Weymouth Marine
365	18	Weymouth	bulkhead	D		
370	18	Weymouth	wharf, piers and floats	D		
371	18	Weymouth	piles	D		
384	19	Weymouth	granite quay and fender piles	D	*	Old Bethlehem shipyard
387	19	Weymouth	pier	D		
397	19	Weymouth	dock	D		
407-414	19	Hingham	marina and boat yard	D		Snug Harbor Boat Yard
415-423	19	Hingham	shipways	D		Hingham shipyard WWII
424	19	Hingham	pier	PD		
427	16	Hingham	bulkhead	PD		
444	20	Hingham	bulkhead	PD	*	

APPENDIX II

Cultural Resources in Impact Area

Str. #	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
445	20	Hingham	boat yard	PD	*	unique transport facility
448	20	Hingham	cat walk	D	*	
456	17	Hull	piles	D		
458	17	Hull	large camel, fender ships for	PD		
461	17	Hull	wharf / quay	D	*	excursion ferry dock & facility at Nantasket
468	17	Hull	plywood float	PD		
475	17	Hull	bulkhead & pier	PD		
476	17	Hull	bulkhead	D		
479	17	Hull	bulkhead	D		
480	17	Hull	bulkhead	D		
481	17	Hull	wharf	D		
484	17	Hull	bulkhead	D		
488	17	Hull	bulkhead	D		

APPENDIX II

Cultural Resources in Impact Area

Str. #	Map #	Town/Island	Type of Structure	Condition D=dilap PD=part dilap	Sensitive Area-letter Structure *	Comments
492	13	Hull	timber breakwater and mooring piles	D		Waveland Marina
495	13	Hull	wharf	D		
503	13	Hull	wharf	D		
505	13	Hull	wharf	D		
506	12	Hull	wharf	PD		Ho Is., Nat'l Guard
507	12	Hull	groin	D		
509	13	Hull	wharf	D		
511	12	Hull	pier	D		
512	12	Hull	wharf	D	*	excursion ferry ticket & loading office
Peddocks - 1	12	Hull	wharf	PD	*	
Sheep - 1	16	Weymouth	piles	D		
Bumpkin - 1	16	Hingham	wharf	D	*	possibly associated with 1900 Hospital

APPENDIX II

Cultural Resources in Impact Area

Str. #	Map #	Town/Island	Type of Structure	Condition d=dilap PD=part dilap	Sensitive Area-letter Structure*	Comments
Gallops - 2	8	Boston	wharf	D		
Rainsford - 1	12	Boston	wharf	D	*	
Rainsford - 2	12	Boston	wharf	D	*	
Spectacle - 1	7	Boston	wharf	D	*	
Spectacle - 2	7	Boston	wharf	D	*	
Spectacle - 3	7	Boston	wharf	D	*	
Spectacle - 4	7	Boston	wharf	D	*	
Great Brewster - 1	8	Boston	wharf	D		
Calf - 1	8	Boston	wharf	D		
Thompson - 3	6	Boston	wharf	D	*	this structure is near a known prehistoric site cf. MHC files
Thompson - 4	10	Boston	retaining wall	D	*	
Thompson - 5	6	Boston	pilings	D	*	

APPENDIX III

EIS CHECKLIST

2j Historical and archaeological features.

Historical and archaeological features include the dilapidated and partially dilapidated remains of such waterfront structures as piers, wharves, bulkheads, bridge fenders, cat-walks, dry docks and marine railways.

3a Conflicts with terms of existing land use plans
(Federal, State or Local).

No conflict between land use plans (in this case some kind of historical preservation plan) and the proposed action has been uncovered.

(3b - therefore not applicable)

4g Remedial, projective and mitigation measures that
would be taken.

The probable impact of this project to historical structures would be either their removal or repair. Mitigation alternatives to alleviate adverse impact include: (1) preservation and restoration &/or (2) detailed reconstruction on paper; &/or (3) recommendations, commemorative in nature (e.g., placing of historical markers or information posts.)

5a Nature and extent of adverse effects.

Unavoidable effects of this proposed action would be the removal of some of the structures representing the maritime history of Boston Harbor and thus ridding the area of its "integrity" of location, design and setting.

5b Resources affected, organisms affected.

Dilapidated structures and partially dilapidated structures in the tide water region of Boston Harbor will be affected. No historical organisms will be affected. (sic.)

7a Cumulative and long term impacts

The removal of structures, would constitute an irreversible commitment of cultural resources.

8a Irrevocable uses of resources.

Historic properties are non-renewable resources. Their removal constitutes an irreversible commitment.

9c Point out environmental issues discussed.

This report addresses the potential impact of the proposed project to historic properties in the project area. The environmental issues discussed are therefore limited to America's cultural environment and to recognizing the importance of significant historic properties to the broad patterns of American life.

APPENDIX IV

NATIONAL REGISTER PROPERTIES IN STUDY AREA (Source: Mass. Hist. Comm. files)

1. Waterfront Area (has been determined eligible, not yet listed)
2. Long Wharf & Custom House Block (listed, National Historic Landmark)
3. Northern Avenue Bridge (has been determined eligible, not yet listed)
4. Boston Naval Shipyard (listed, National Historic Landmark)
5. U.S.S. Constitution, Boston Naval Shipyard (listed, National Historic Landmark)
6. Fort Independence, Castle Island (listed)
7. Fort Warren, Georges Island (listed)
8. Boston Light House, Little Brewster Island, Boston Harbor (listed)



05

Boston

05
Inner

052

BOSTON

05

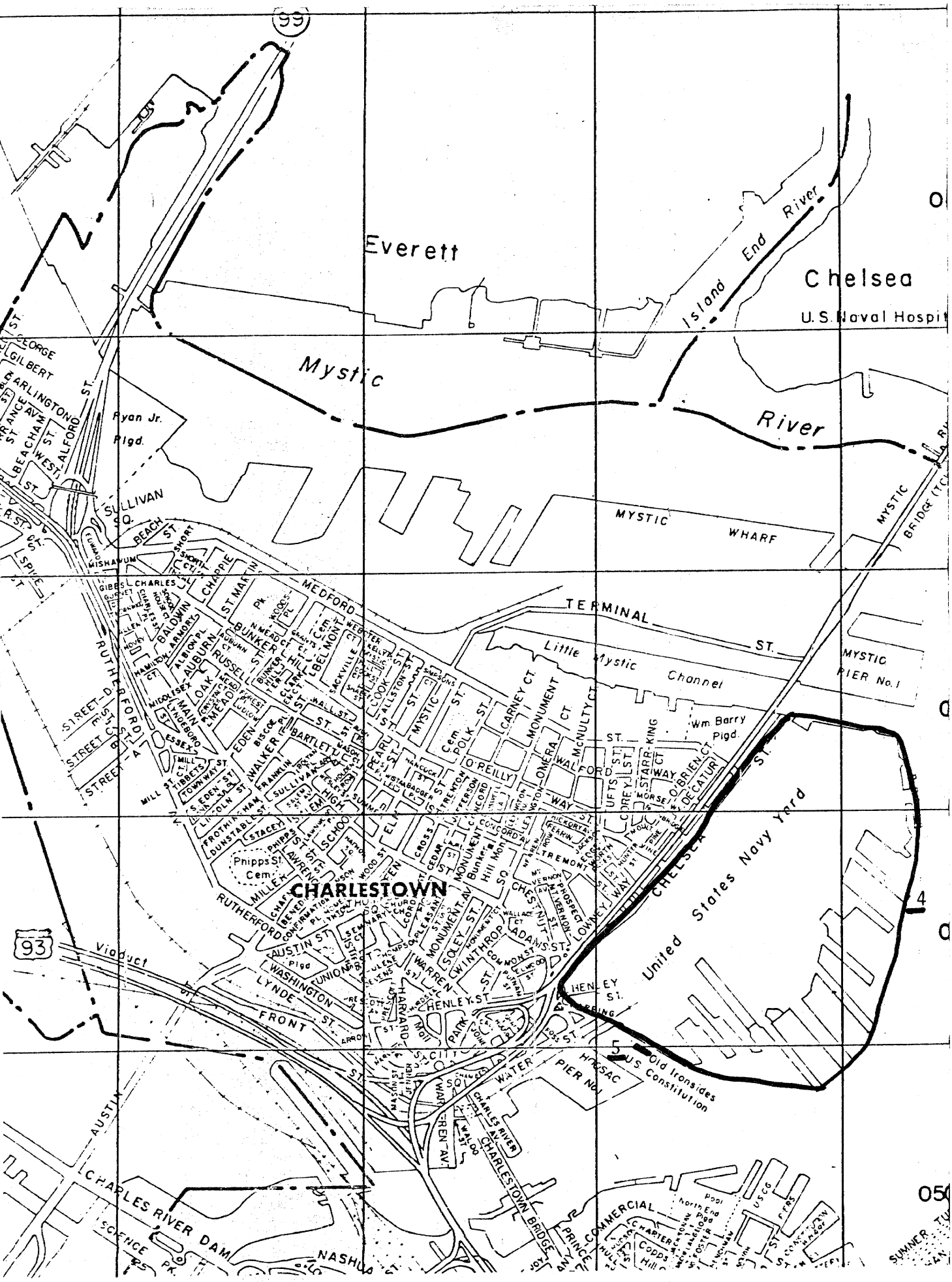
SOUTH BOSTON

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Naval A

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Universal Publishing Co



Everett

Chelsea

U.S. Naval Hospital

Mystic

Island End River

River

MYSTIC WHARF

MYSTIC BRIDGE (TOL)

TERMINAL

Little Mystic Channel

MYSTIC PIER No. 1

Wm Barry Pigd.

United States Navy Yard

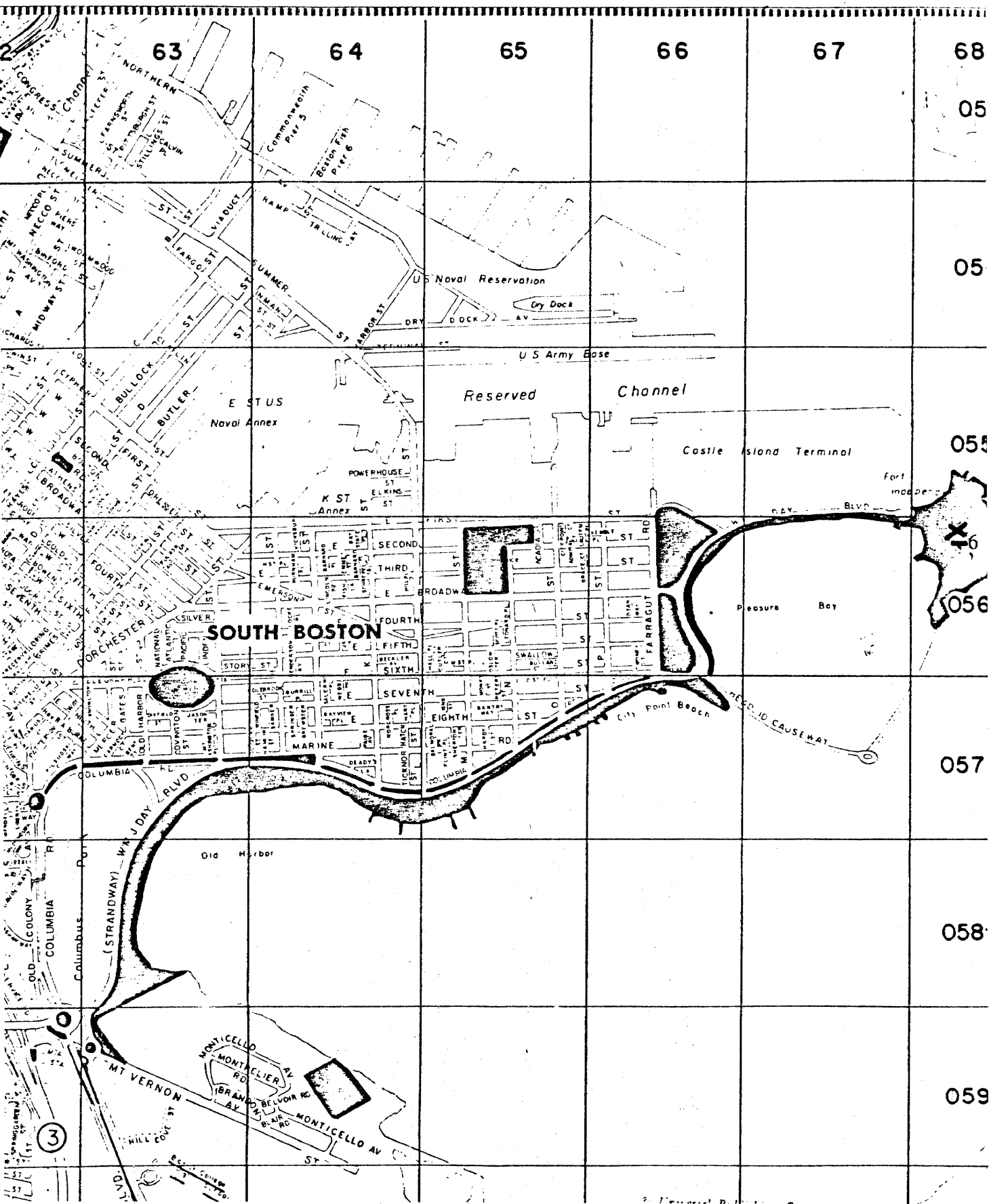
CHARLESTOWN

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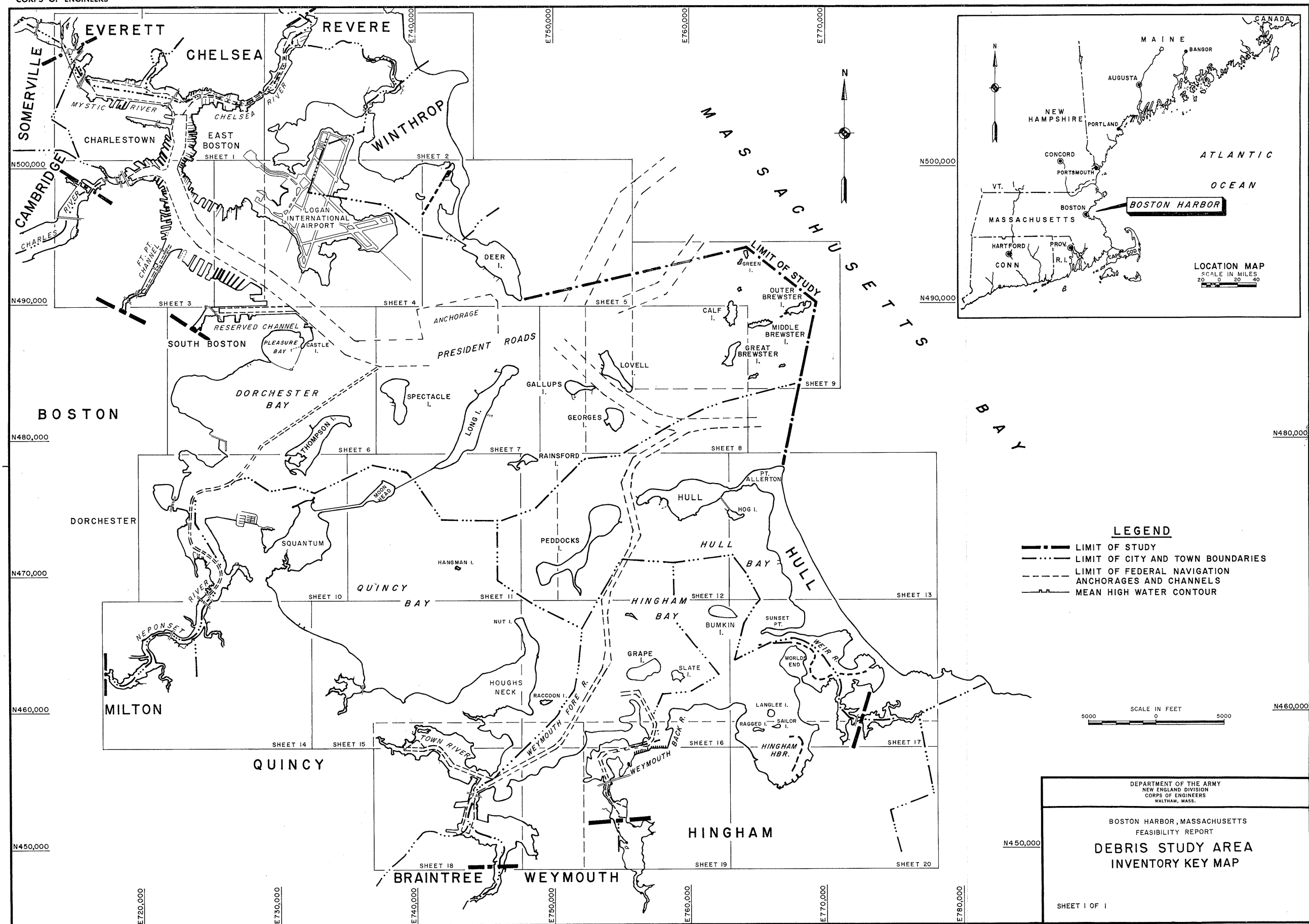
SUMNER TOWN

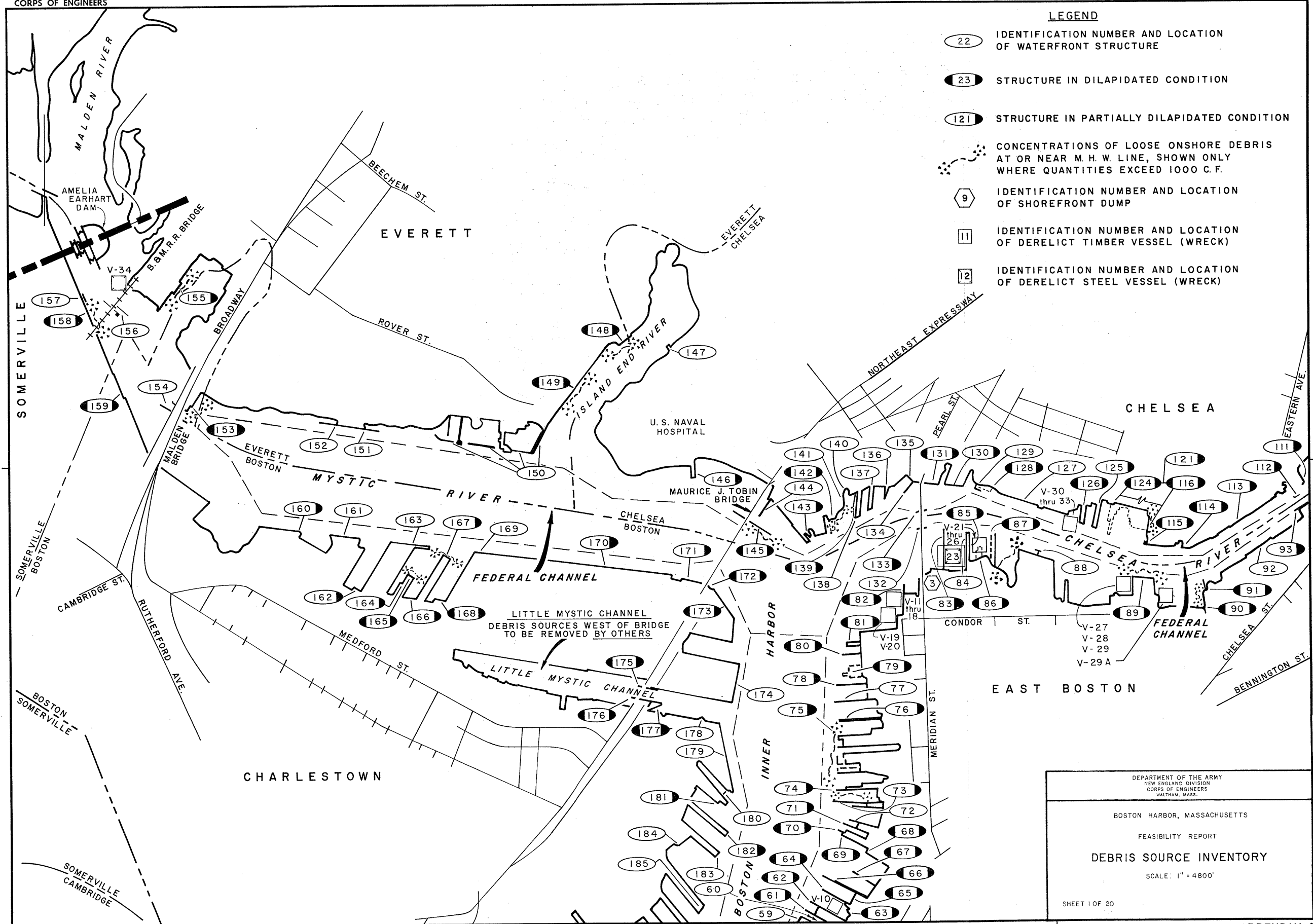


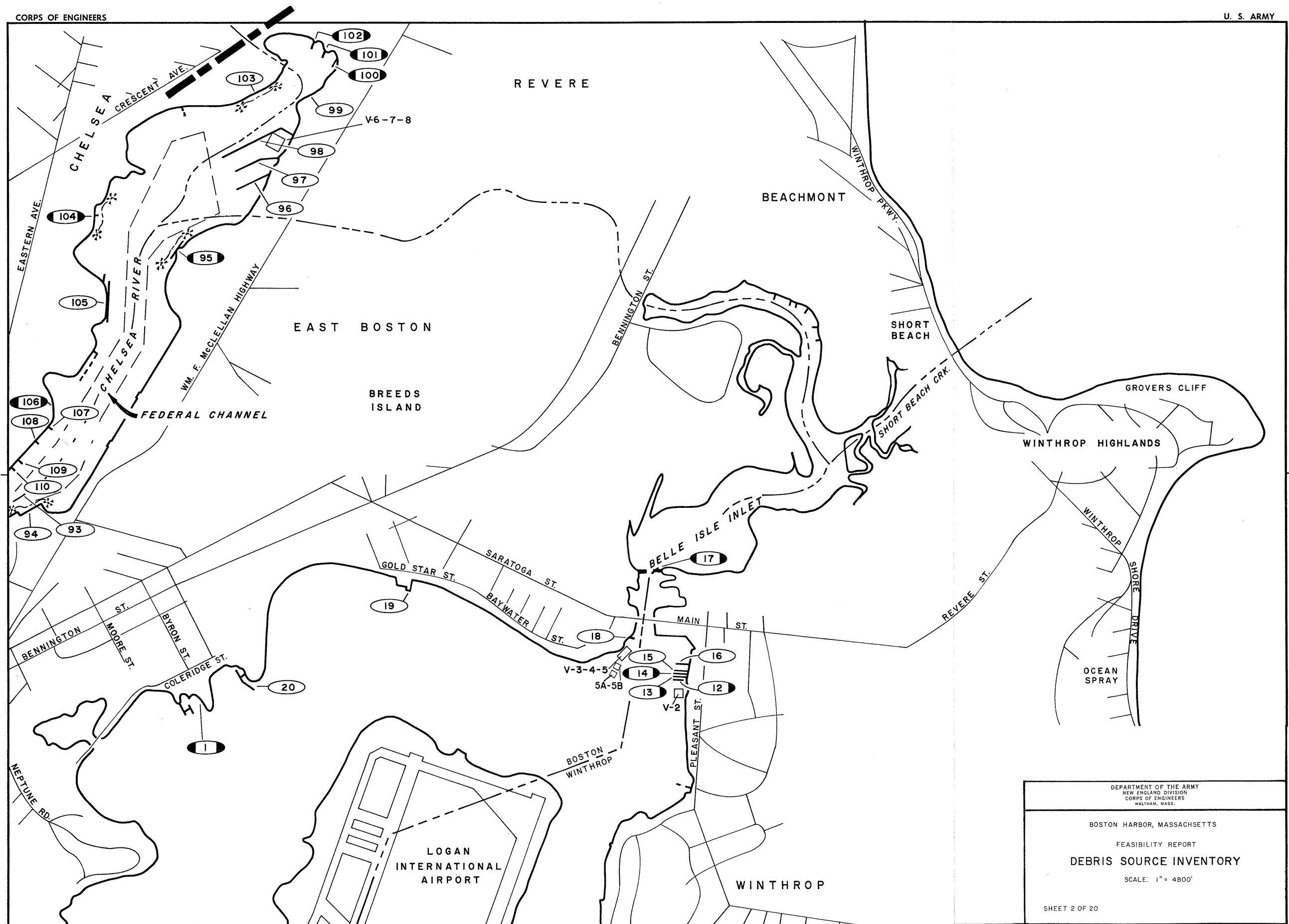
APPENDIX V

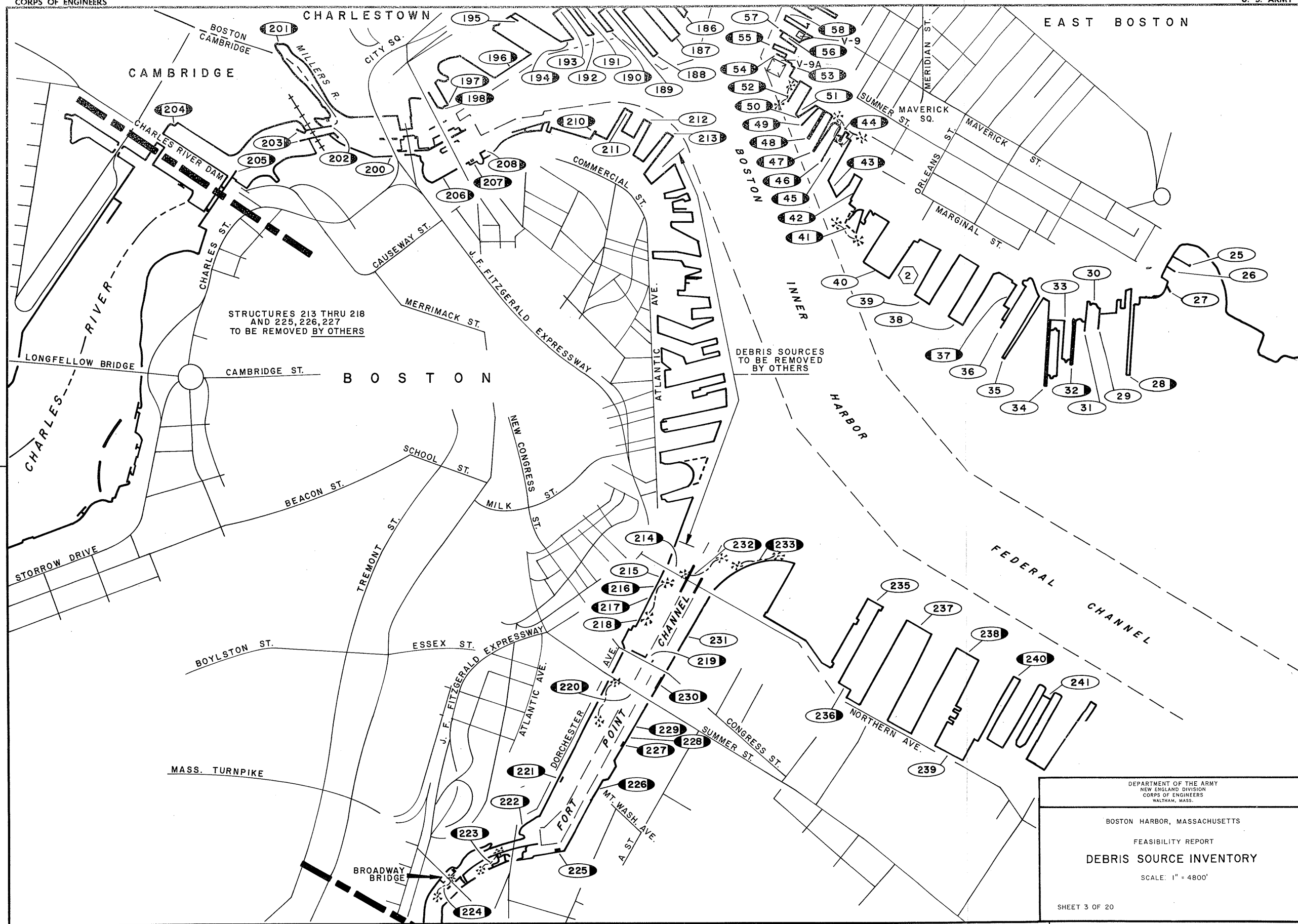
PROJECT MAPS

(Source: Army Corps of Engineers)

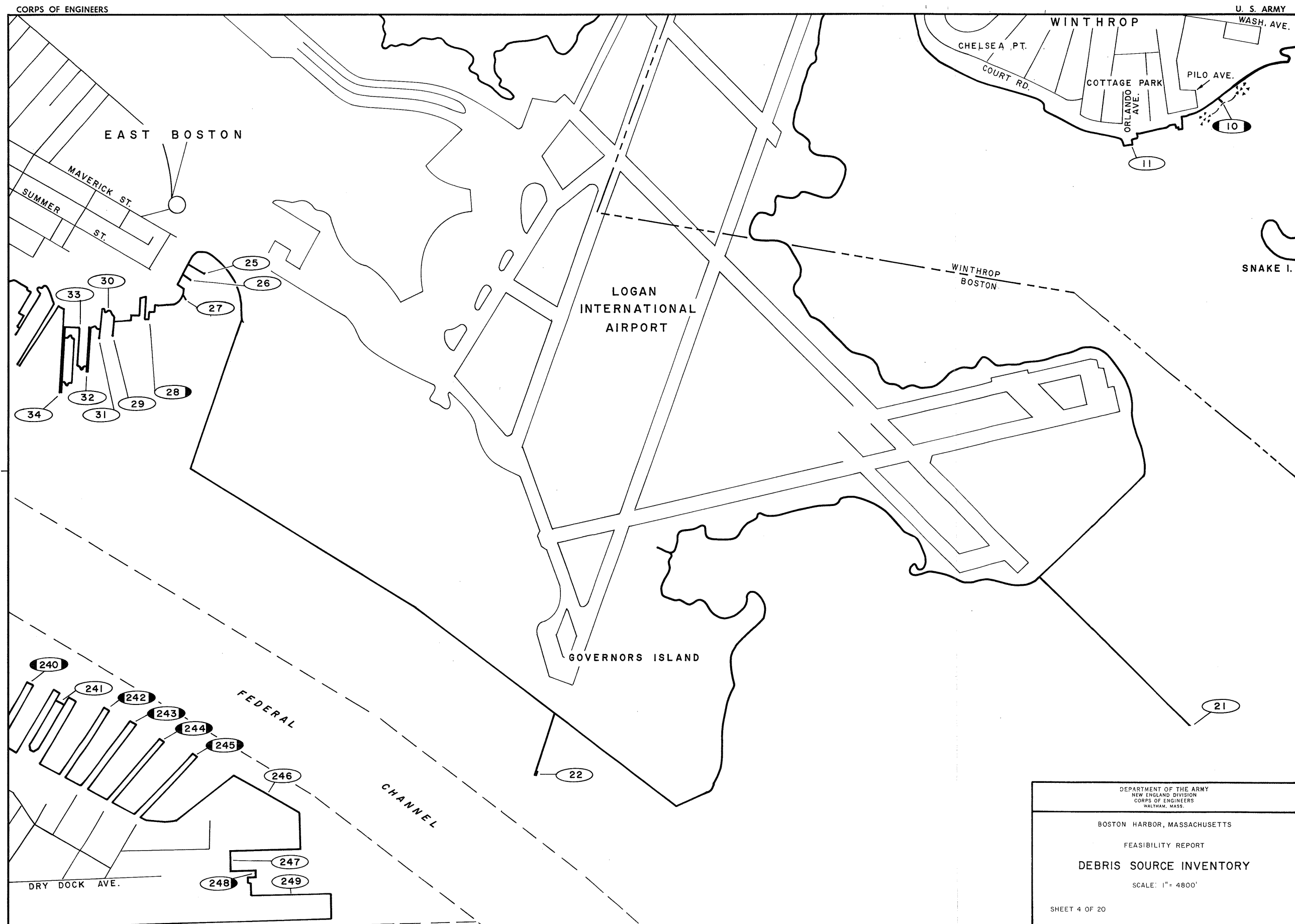








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NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS.

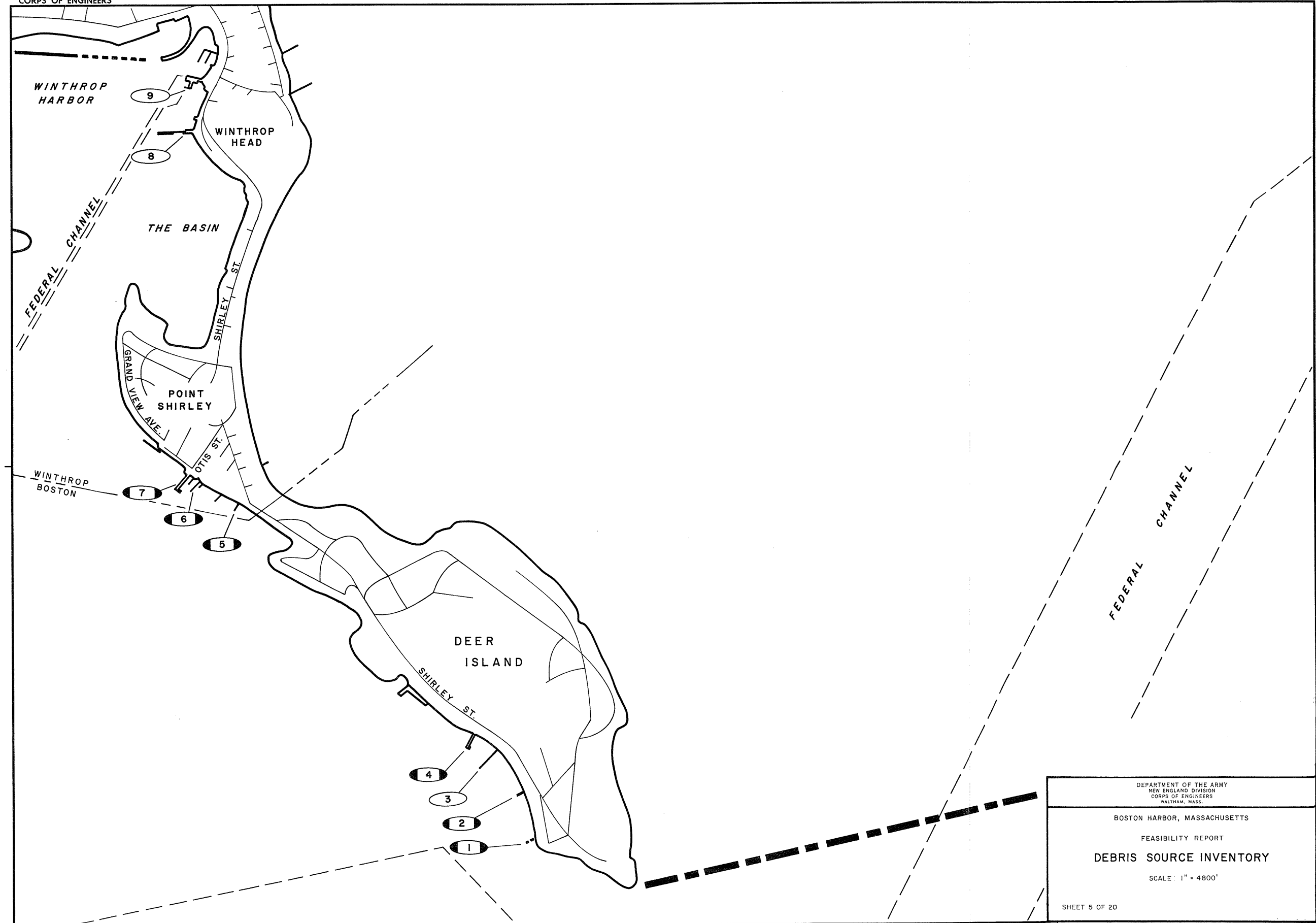
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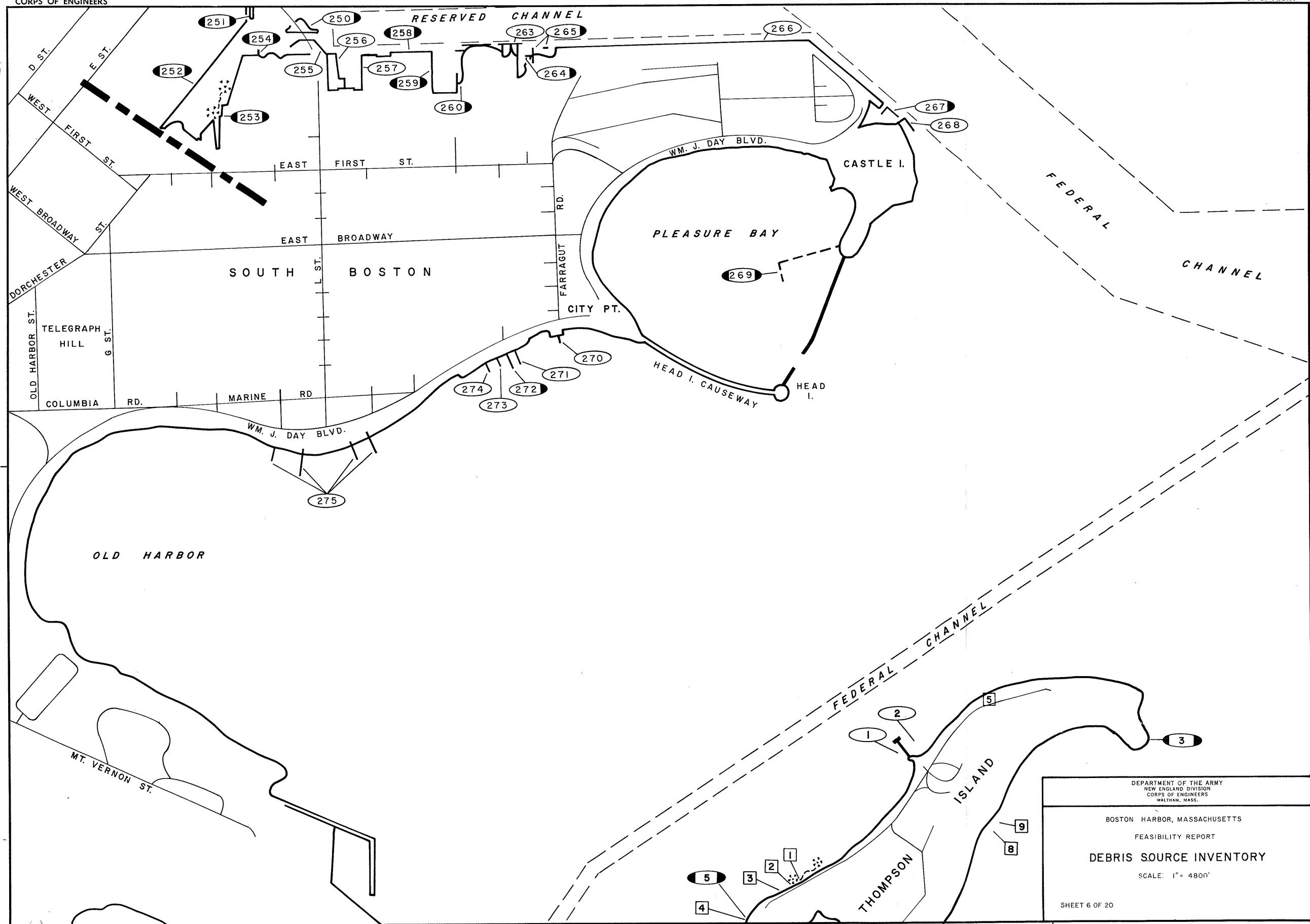
FEASIBILITY REPORT

DEBRIS SOURCE INVENTORY

SCALE: 1" = 4800'

SHEET 4 OF 20





CORPS OF ENGINEERS

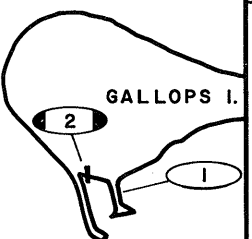
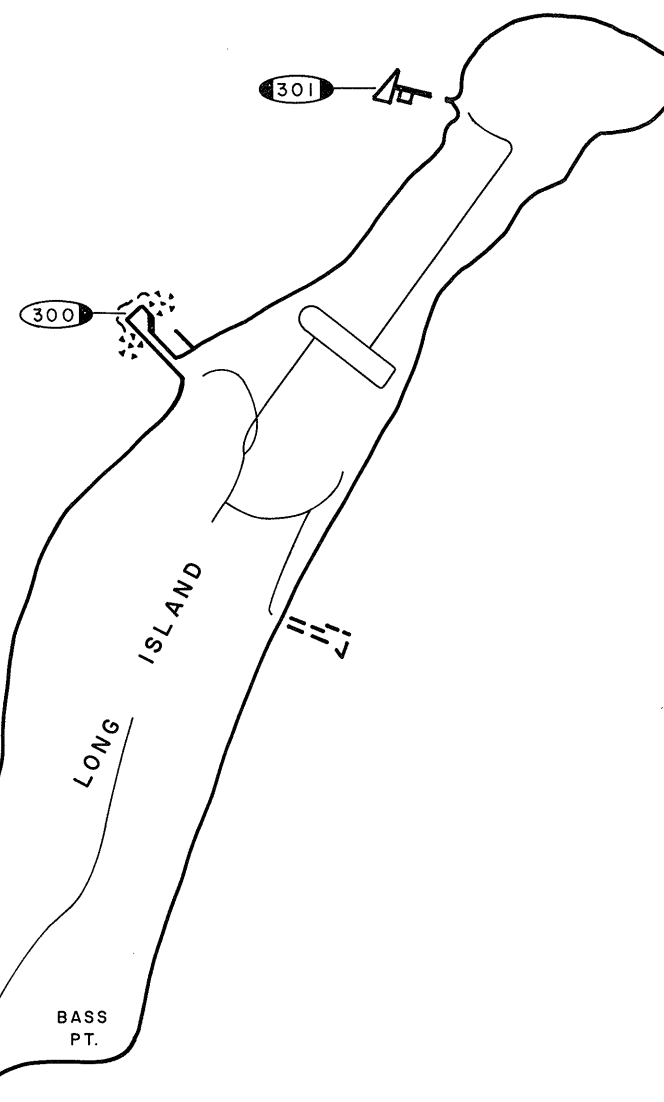
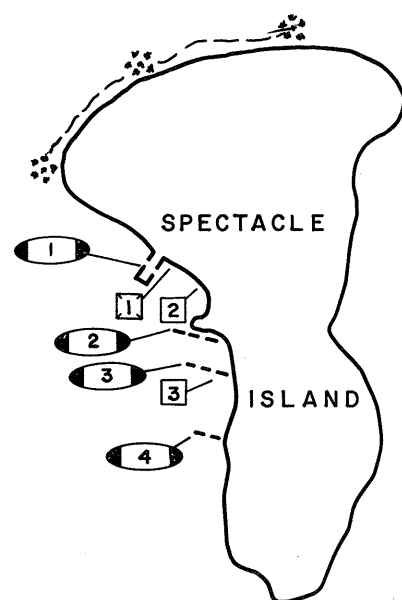
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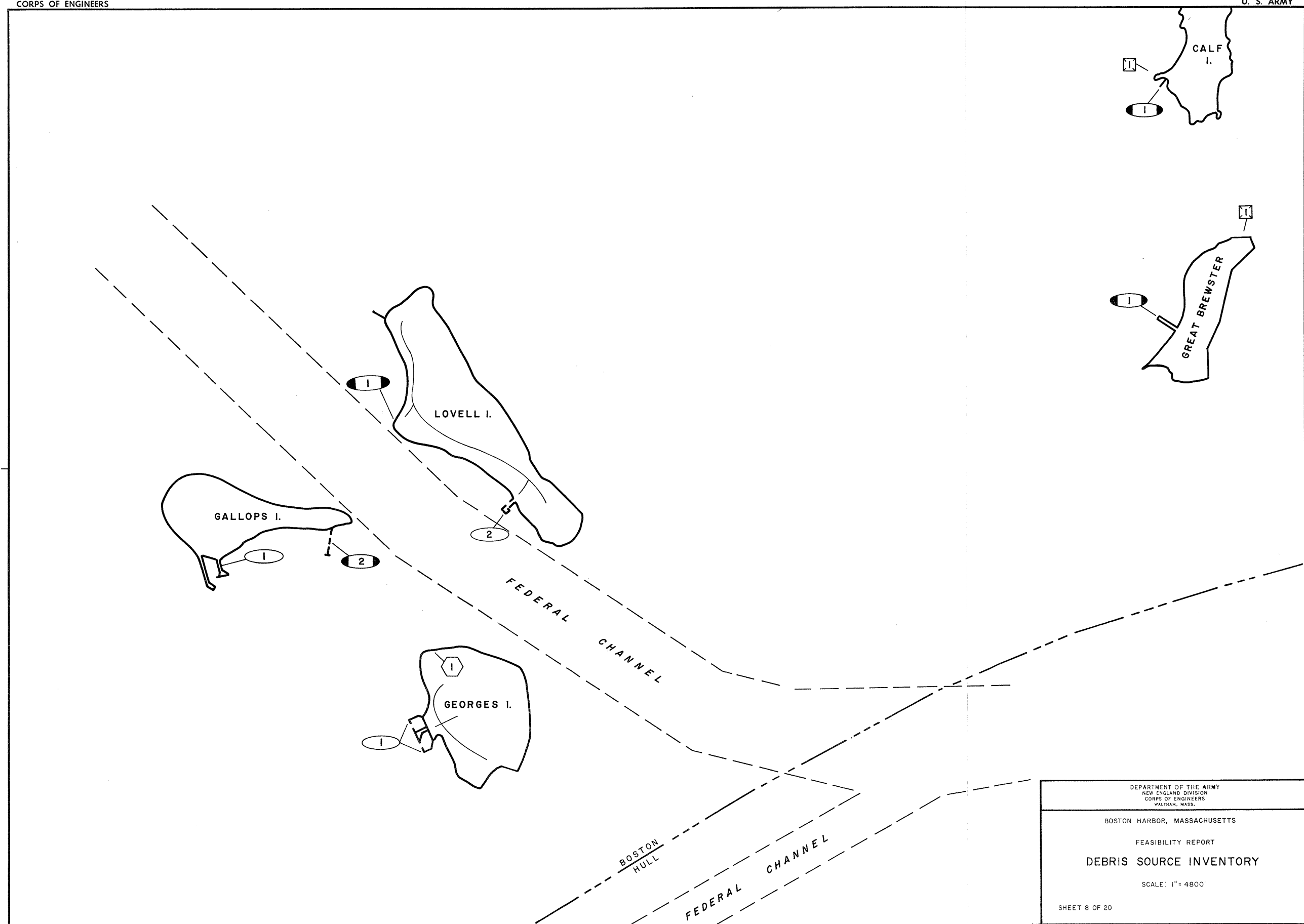
DEBRIS SOURCE INVENTORY

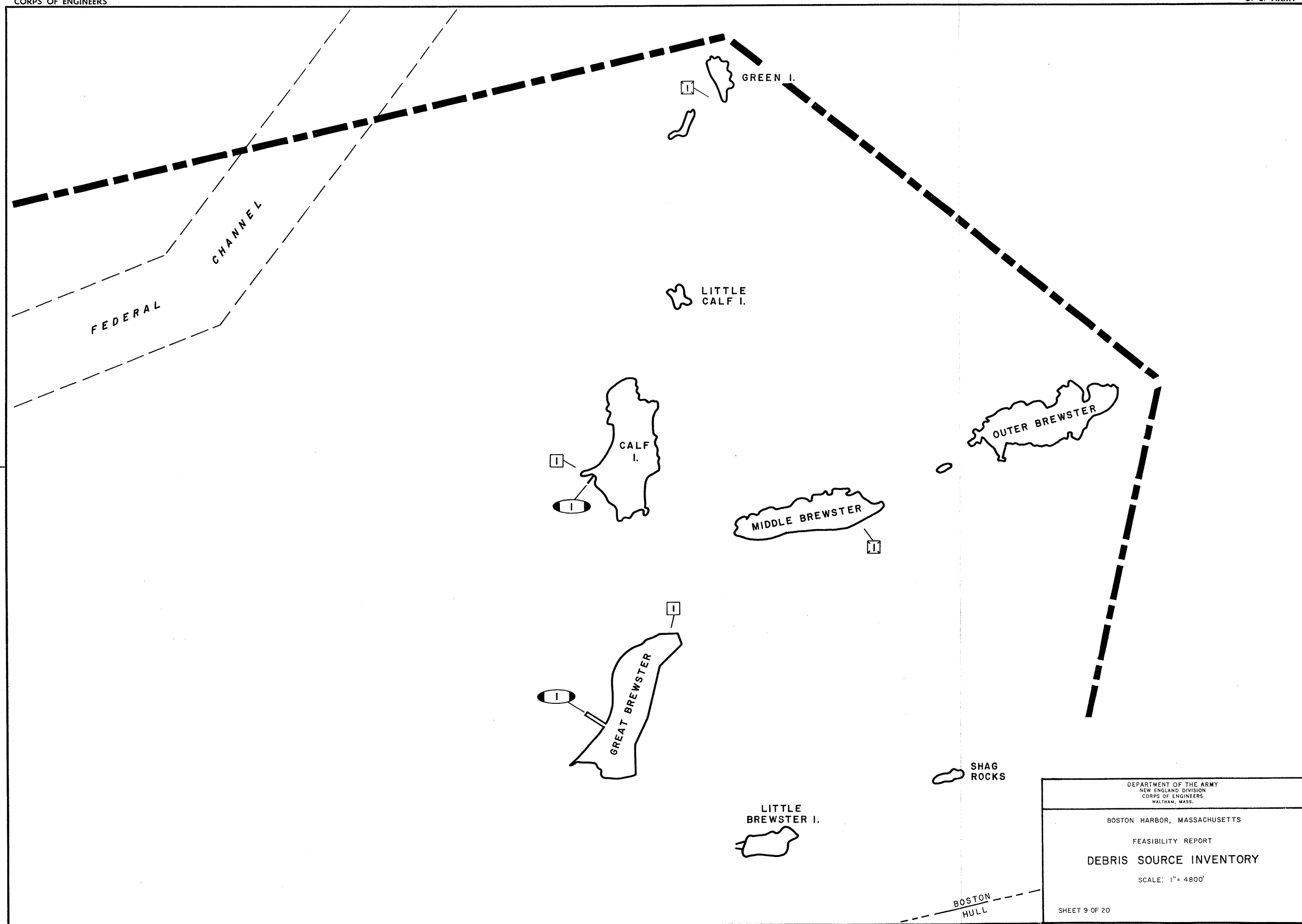
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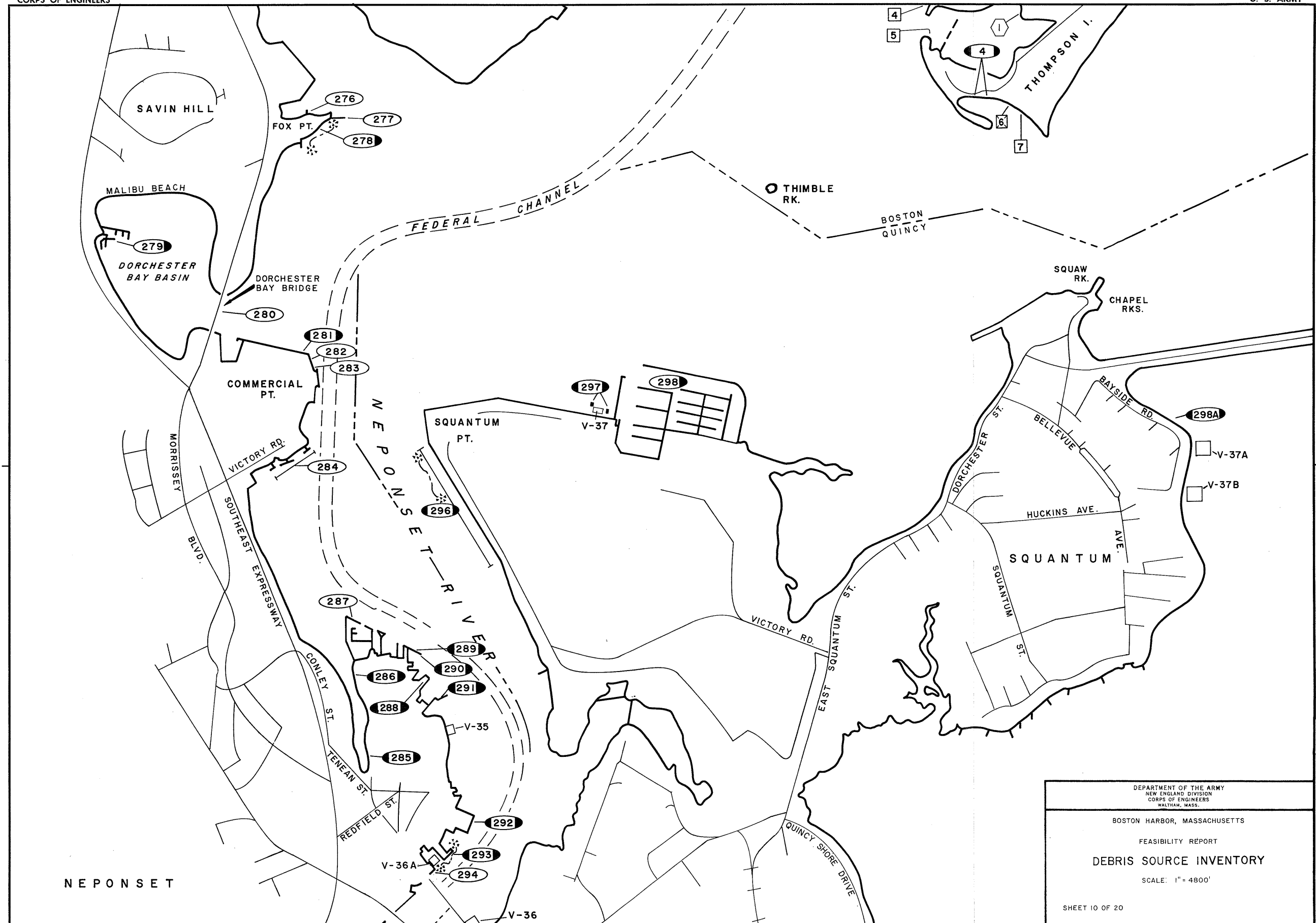
SHEET 7 OF 20

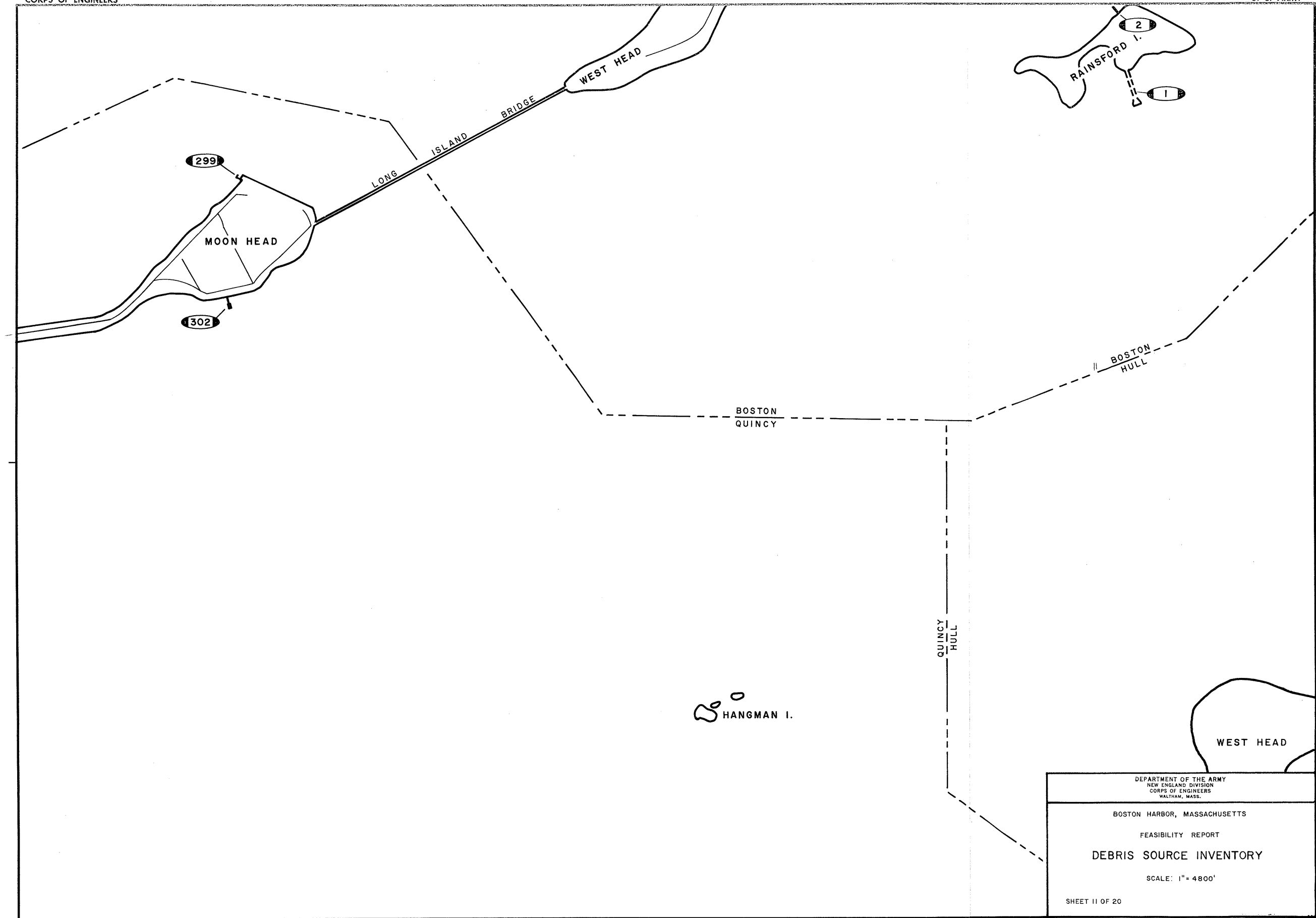
APPENDIX 4

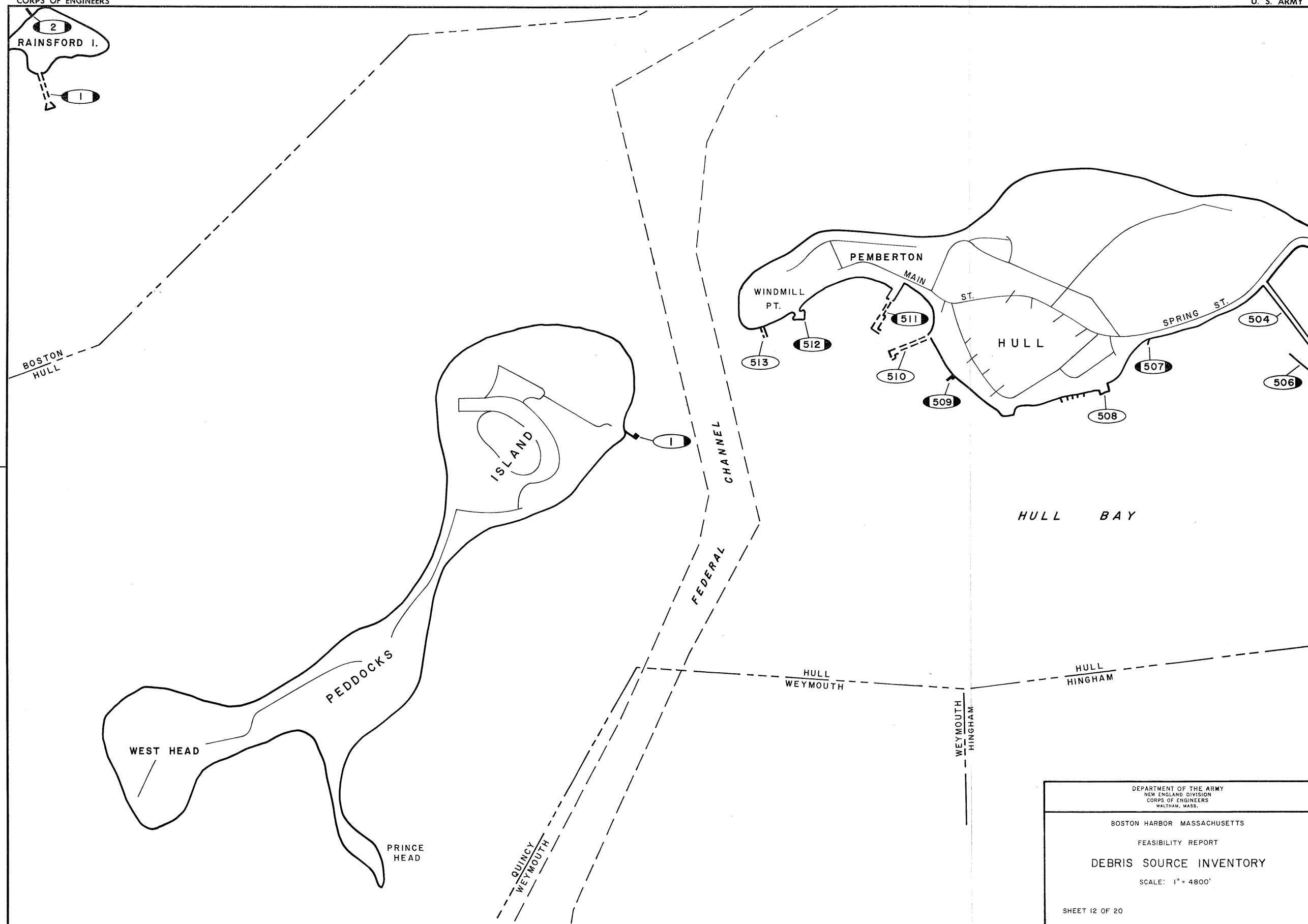
A-83











DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS.

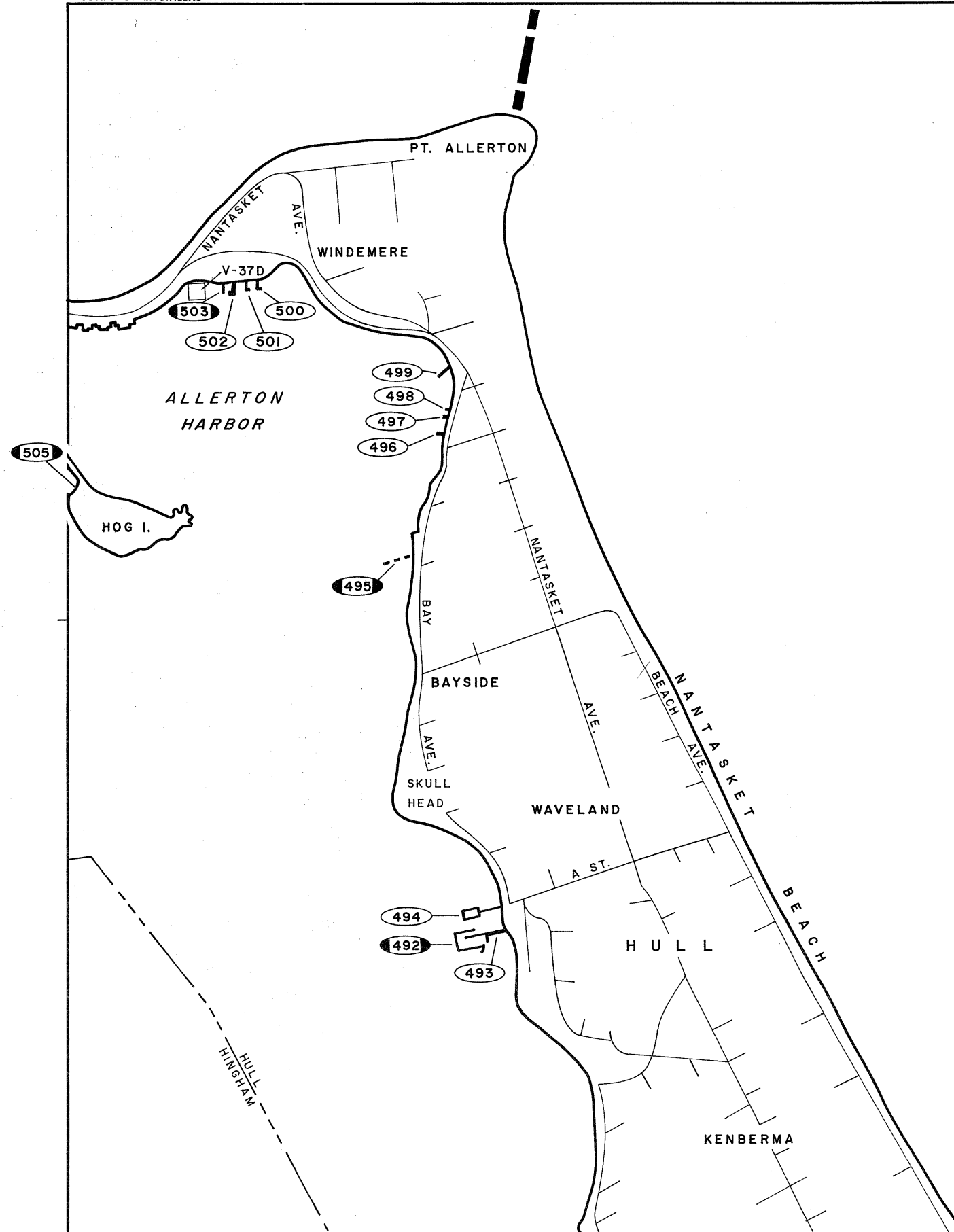
BOSTON HARBOR MASSACHUSETTS

FEASIBILITY REPORT

DEBRIS SOURCE INVENTORY

SCALE: 1" = 4800'

SHEET 12 OF 20



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS.

BOSTON HARBOR MASSACHUSETTS

FEASIBILITY REPORT

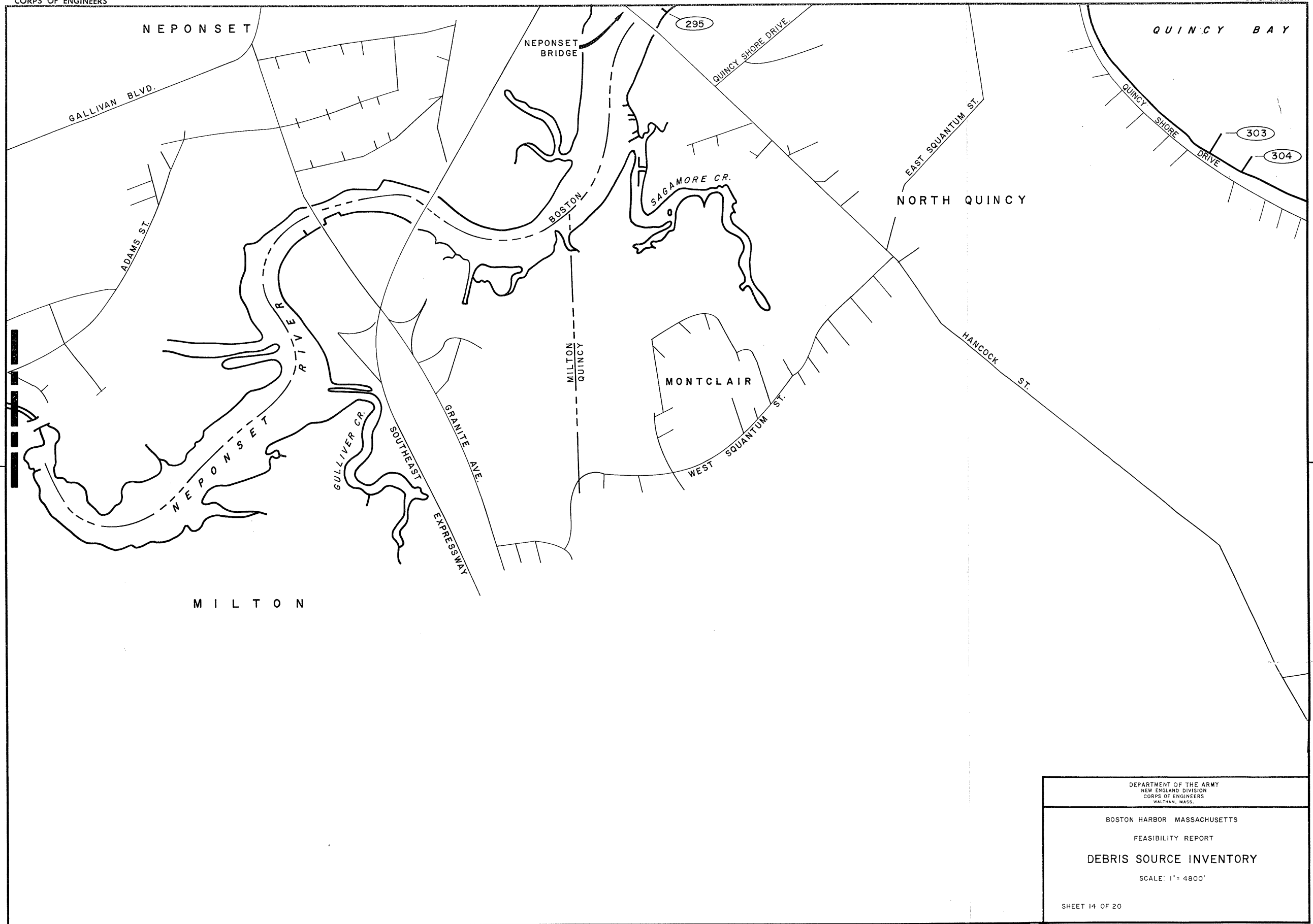
DEBRIS SOURCE INVENTORY

SCALE: 1" = 4800'

SHEET 13 OF 20

CORPS OF ENGINEERS

U. S. ARMY



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS.

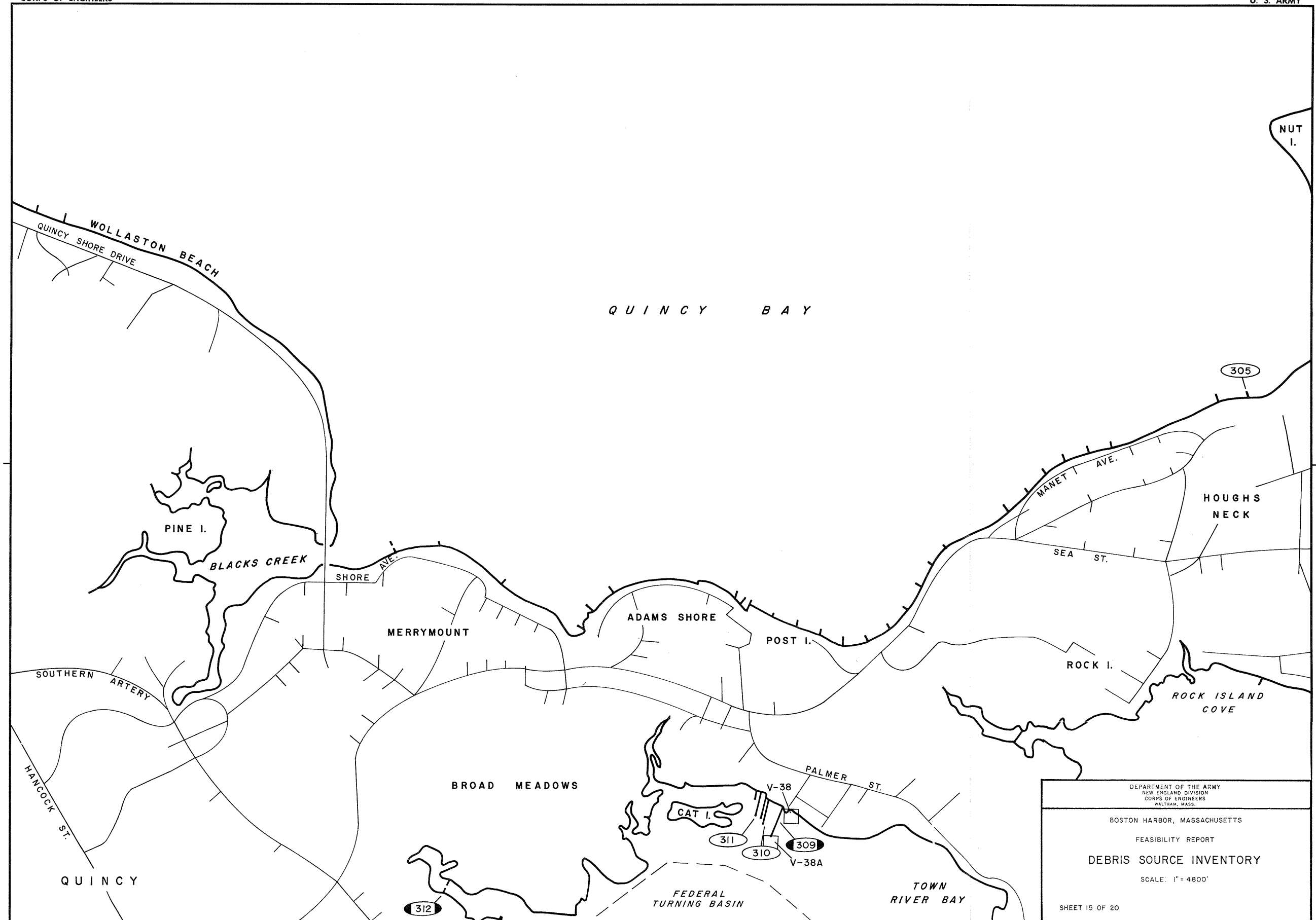
BOSTON HARBOR MASSACHUSETTS

FEASIBILITY REPORT

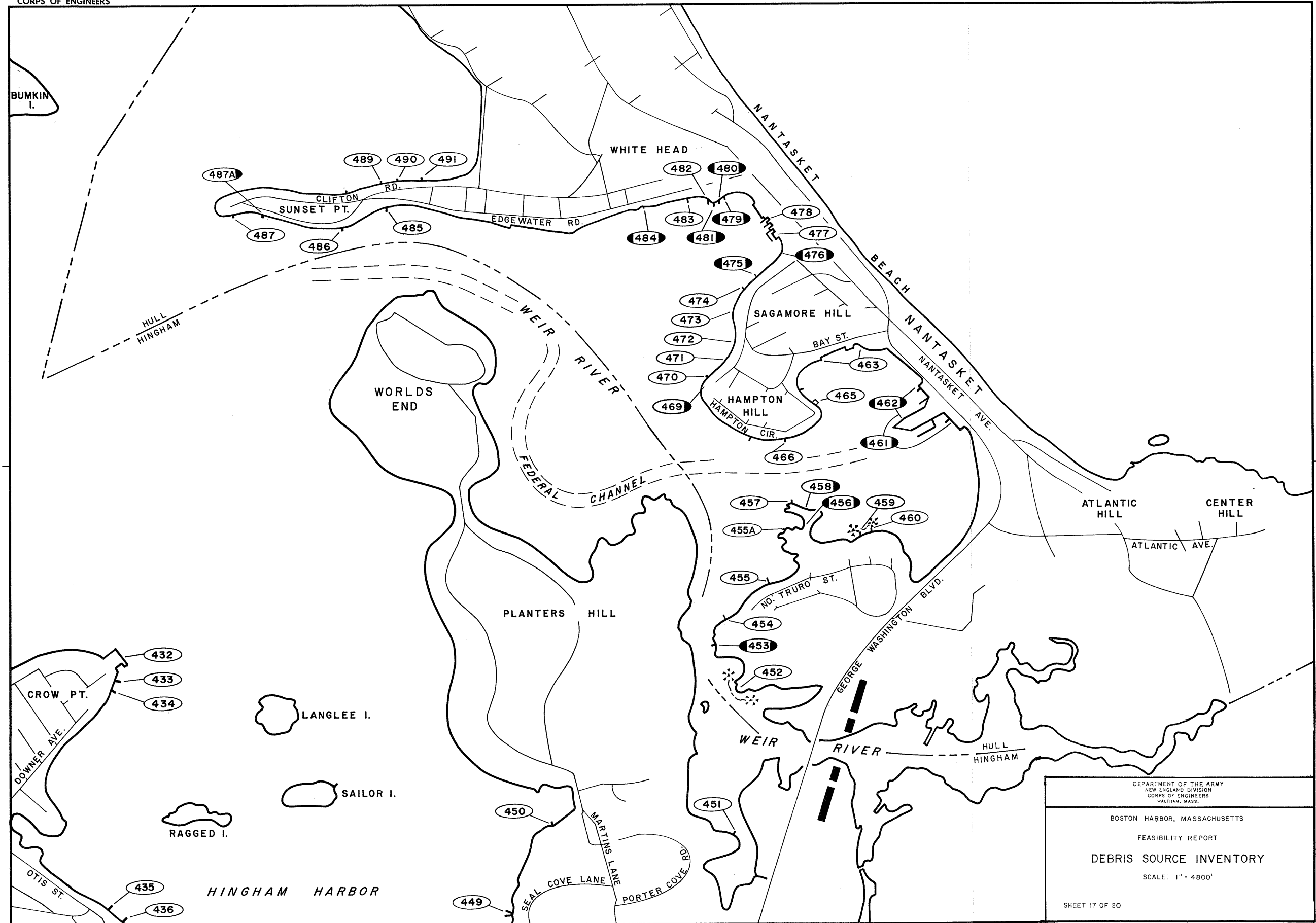
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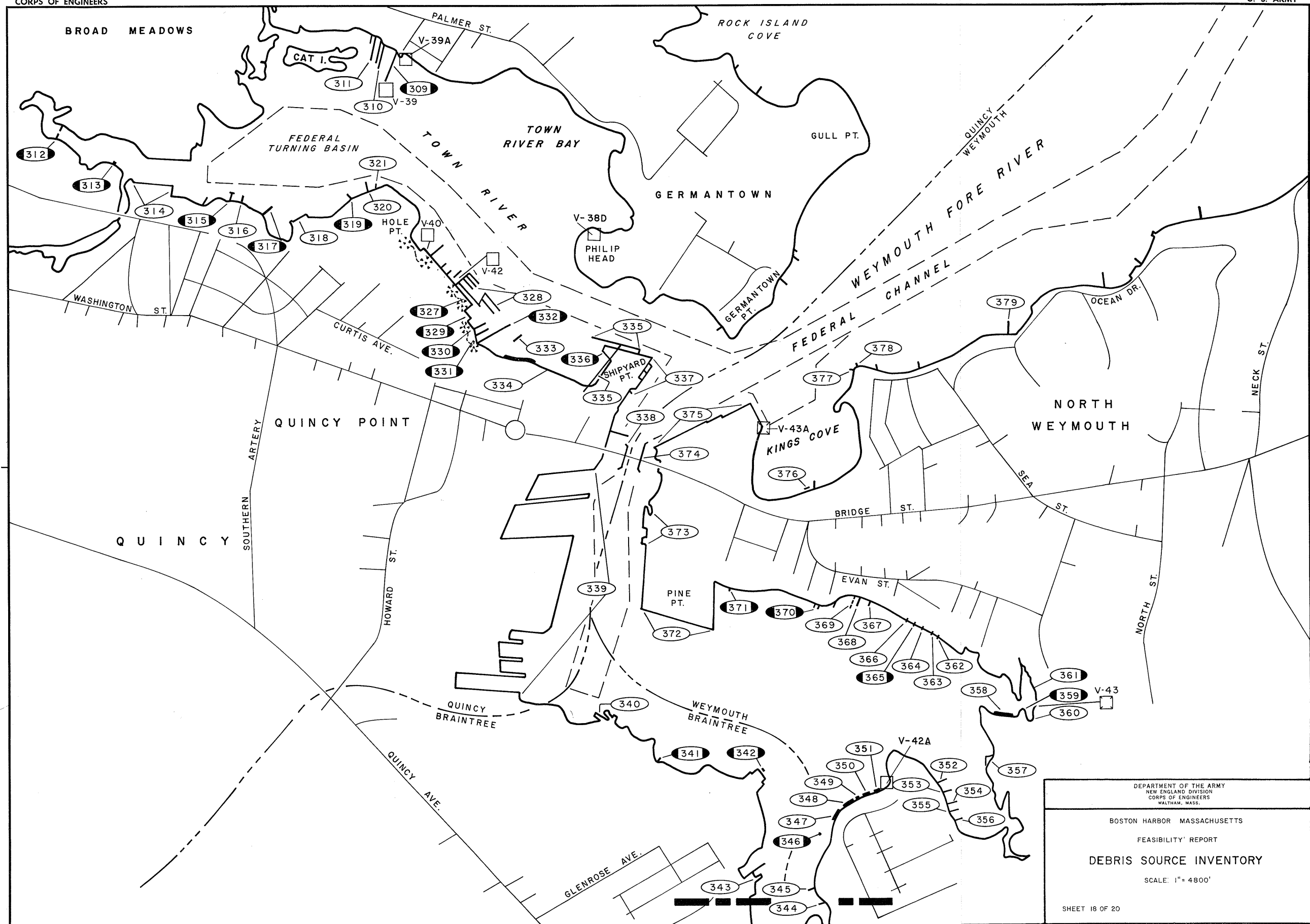
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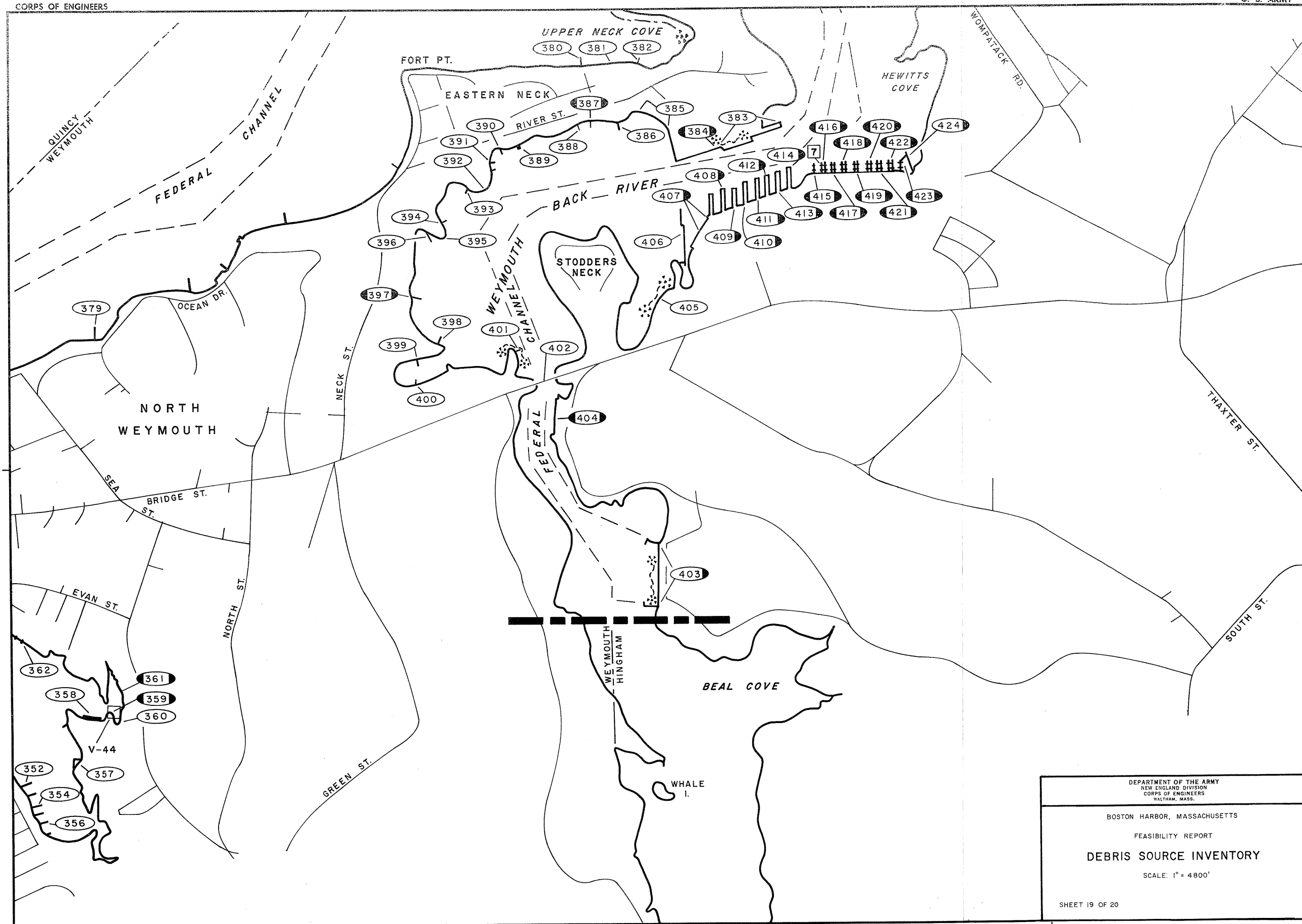
SHEET 14 OF 20











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CORPS OF ENGINEERS
WALTHAM, MASS.

BOSTON HARBOR, MASSACHUSETTS

FEASIBILITY REPORT

DEBRIS SOURCE INVENTORY

SCALE: 1" = 4800'

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